# POWERWARE®
# PRESTIGE SERIES

3000 VA, 200-240V

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## Installation and Operator's Manual for IBM Applications

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## Requesting a Declaration of Conformity

Units that are labeled with a CE mark comply with the following harmonic standards and EU directives:

- Harmonic Standards: EN 50091-1-1 and EN 50091-2
- EU Directives: 73/23/EEC, Council Directive on equipment designed for use within certain voltage limits
  93/68/EEC, Amending Directive 73/23/EEC
  89/336/EEC, Council Directive relating to electromagnetic compatibility
  92/31/EEC, Amending Directive 89/336/EEC relating to EMC

The EC Declaration of Conformity is available upon request for products with a CE mark. For copies of the EC Declaration of Conformity, contact:

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Koskelontie 13
FIN-02920 Espoo
Finland
Phone: +358-9-452 661
Fax: +358-9-452 665 68

## Class A EMC Statements

### FCC Part 15

**NOTE** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### ICES-003

This Class A Interference Causing Equipment meets all requirements of the Canadian Interference Causing Equipment Regulations ICES-003.

Cet appareil numérique de la classe A respecte toutes les exigences du Reglement sur le matériel brouilleur du Canada.

### EN50091-2

Some configurations are classified under EN50091-2 as “Class-A UPS for Unrestricted Sales Distribution.” For these configurations, the following applies:

**WARNING** This is a Class A-UPS Product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take additional measures.

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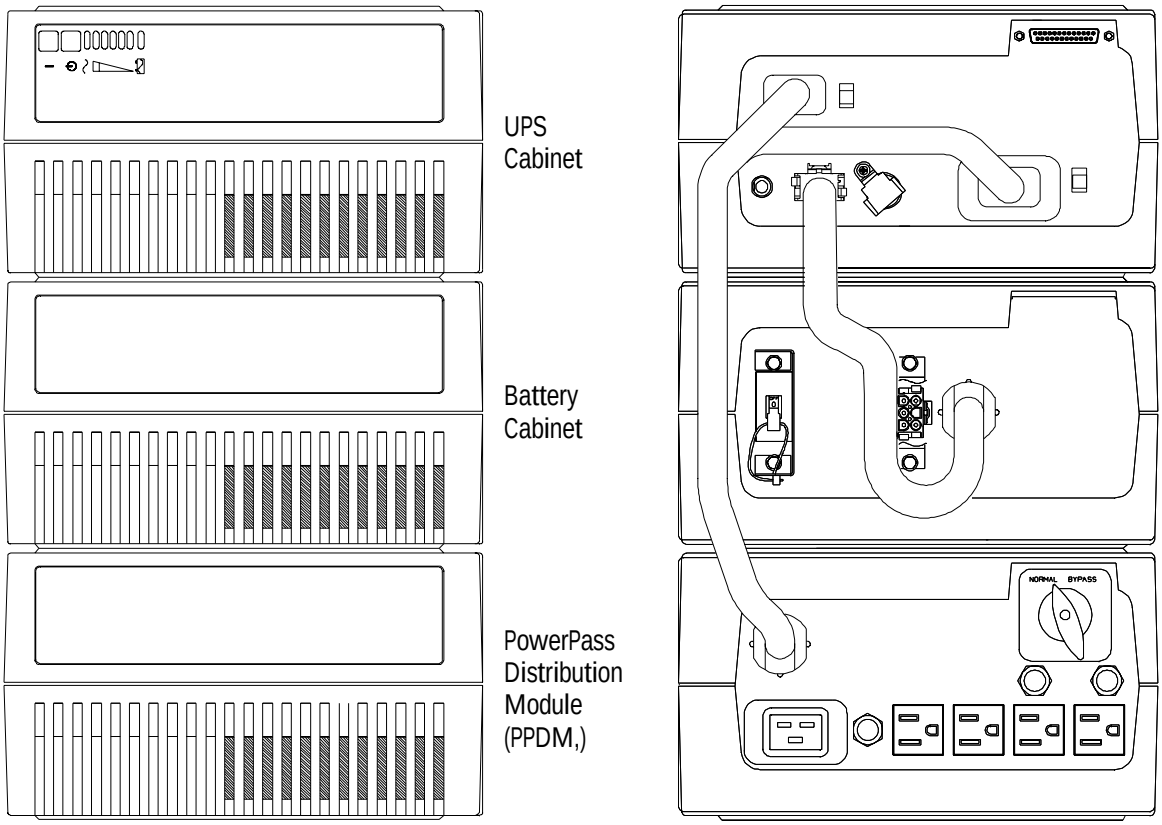
# QUICK INSTALL

## UPS with PPDM Quick Installation

1 If you are connecting the UPS to an AS/400, the QUPSDLYTIM system value for the UPS Monitoring feature should be set. See “UPS Monitoring” on page 52 for instructions.

2

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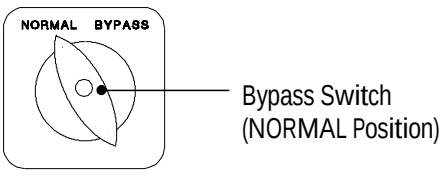


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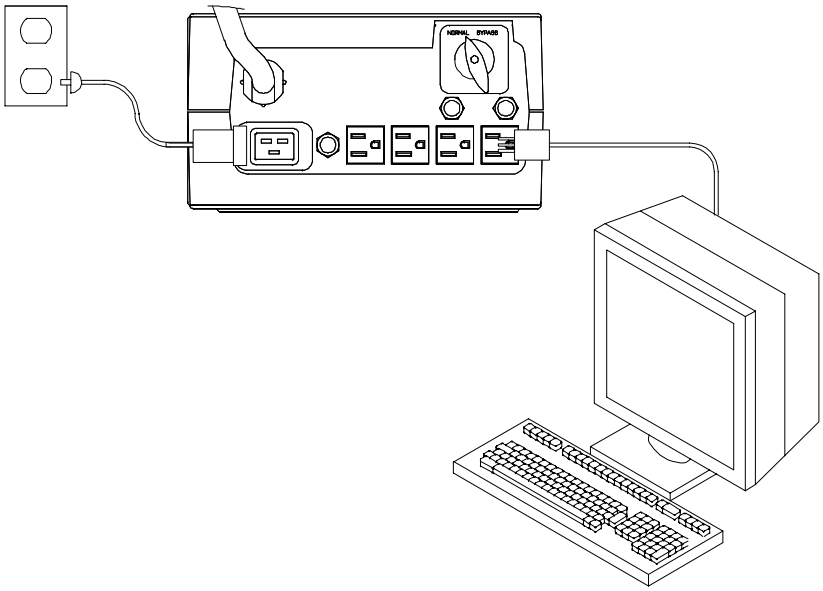
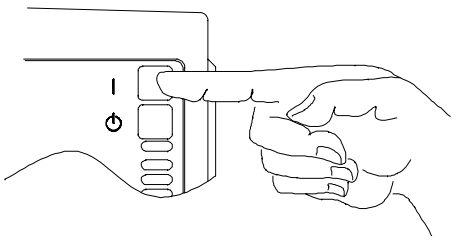


6 The UPS output voltage is factory-configured for 230V. If you need to change the output voltage, see “UPS with PPDM Startup” on page 42.

7 For the AS/400 interface, plug the AS/400 communications cable into the serial port on the UPS rear panel. Plug the other end of the cable into the J14 connector or the connector labeled “UPS” on your AS/400.

8

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CHAPTER 1

# INTRODUCTION

Congratulations on the purchase of your Powerware® Prestige Series uninterruptible power system (UPS). The Prestige UPS meets the toughest measures of superior design and manufacturing, including ISO 9001. You now own the most reliable power protection available.

The Prestige 3000 provides a steady, well-regulated power supply for your computing and communications equipment, while protecting it from the frequent irregularities that are inherent in commercially available power. Voltage spikes, power surges, brownouts, and power failures have the potential to corrupt critical data, destroy unsaved work sessions, and in some instances, damage expensive hardware.

With the Prestige 3000, you can safely eliminate the effects of electrical line disturbances and guard the integrity of your systems and equipment. The PowerPass® Distribution Module (PPDM) has a Maintenance Bypass feature that supplies power to your equipment even when the UPS electronics are removed for maintenance or upgrades. Figure 1 shows the Prestige 3000 UPS.

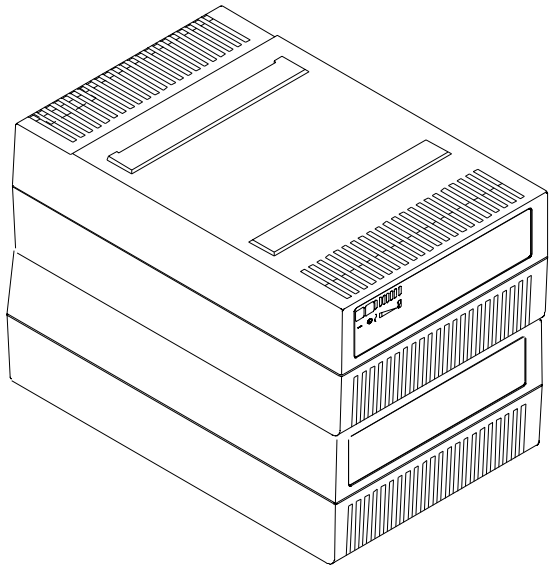

**Figure 1. Prestige 3000 UPS**



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# UPS Model and Battery Configurations

This UPS is designed to work with single-phase, three-wire, AC power sources. There are two important considerations when selecting the UPS model and battery configuration to properly safeguard your equipment:

- Load requirements
- Battery times

## Load Requirements

The load is the equipment to be protected by the UPS. Select the UPS model that meets the power consumption requirements of the load in volt-amperes (VA). The total load VA should not exceed the UPS VA rating. To determine the total load requirements:

1. Obtain the load ratings from either the nameplate or operator's manual of the equipment to be protected by the UPS. The ratings are listed in either watts (W), amperes or amperes max (A), or volt-amperes.
2. If the rating is in watts, multiply by 1.4 to obtain the VA requirement (this is the typical relationship between watts and volt-ampere ratings in most computing equipment). However, in some new computing equipment, the power supply is power-factor corrected and the watts rating equals the VA requirement. Check with the manufacturer to determine applicability.

   If the rating is in amperes or amperes max, multiply by the input voltage to obtain the VA requirement.

**NOTE** For the load ratings of AS/400 models and attachable devices, see Chapter 9 of "AS/400 Physical Planning Reference," SC41-5109.

3. Add all of the resultant VA ratings together to obtain the total load requirements of the equipment to be protected (see Figure 2). If the load consists of the power-factor corrected supplies, it is recommended to use total watts for the load requirements.



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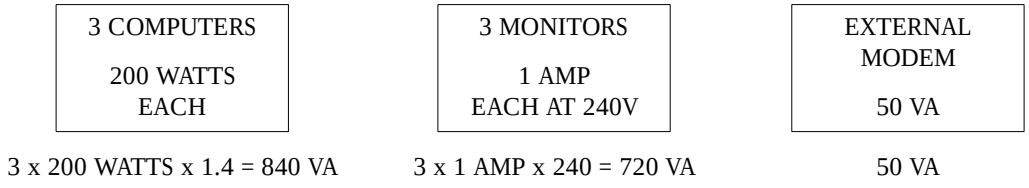
3 COMPUTERS
200 WATTS EACH
3 MONITORS
1 AMP EACH AT 240V
EXTERNAL MODEM
50 VA
3 x 200 WATTS x 1.4 = 840 VA
3 x 1 AMP x 240 = 720 VA
50 VA
840 VA + 720 VA + 50 VA = 1610 VA (Total Load Requirements)

**Figure 2. Volt-Amperes Calculation Example**

If the total load requirements of the equipment exceeds the capacity of the UPS, you must either reduce the number of pieces of equipment, or use a UPS with a larger load capacity.

When deciding on which pieces of equipment to remove from the UPS, select equipment that has a lower priority for power protection. Computers, monitors, and modems typically have a higher priority because they could be processing or transmitting data when a power outage occurs.

## Approximate Battery Times

During a power failure, the UPS battery supplies power to your equipment, providing time to complete computing activities prior to UPS shutdown. The duration of this time period is directly related to the UPS battery configuration. By adding battery cabinets, you can customize the UPS to provide enough battery time for normal processing activities.

To prepare for a power outage at your installation, ensure that you have sufficient battery time available. To do this, take a few minutes to determine your approximate battery time by completing the following steps:

| Load Requirements (VA) | Battery Time | | |
|---|---|---|---|
| | UPS Model | Battery Cabinets | Total Battery Time Minutes (Approximate) |
| | Prestige 3000 (9910 EP5) | | |

**Figure 3. Determining Approximate Battery Time**



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1. See “Load Requirements” on page 2 for assistance in determining the total load requirements for your UPS. Round this number up to the next Load (VA) entry in the following table, “Prestige 3000 with PPDM,” and enter the number in Figure 3.
2. In Figure 3, enter the number of battery cabinets that you have installed. Find the intersection point of the appropriate Load (VA) and number of battery cabinets in the following table, “Prestige 3000 with PPDM.” Enter this number in Figure 3, Total Battery Time Minutes.

If changes take place in your installation, such as different load parameters or changes to battery cabinet configuration, take time to reevaluate your approximate battery time availability.

**NOTE** For detailed information regarding calculation of 9910 UPS battery capacity and run time for your load, reference: “AS/400 Physical Planning,” SA41-5109, “AS/400 Advanced Series Backup and Recovery - Advanced,” SC41-4305 (see Chapter 10), or “AS/400e series Backup and Recovery,” SC41-5304 (see Chapter 37).

## Prestige 3000 with PPDM

| Load (VA) | Load (W) | Approximate Battery Time (in Minutes) | | |
|---|---|---|---|---|
| | | 1 Cabinet | 2 Cabinets | 3 Cabinets |
| 600 | 420 | 36.8 | 88 | 146 |
| 800 | 533 | 27.6 | 66 | 110 |
| 1200 | 800 | 18.4 | 44 | 73 |
| 1600 | 1067 | 13.7 | 33 | 54 |
| 2000 | 1333 | 10.7 | 26 | 42 |
| 2500 | 1667 | 8.3 | 20 | 33 |
| 3000 | 2000 | 6.5 | 16 | 27 |

**NOTE** For AS/400 usage, see “Base Equipment” on page 69.



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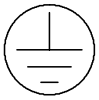
## Special Symbols

The following common symbols may be found on the UPS:



**LOAD ON** - Press the button with this symbol to energize the output receptacles (Output On).

**LOAD OFF** - Press the button with this symbol to de-energize the output receptacles (Output Off).

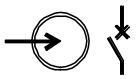


**SAFETY EARTHING TERMINAL** - Indicates the primary safety ground.

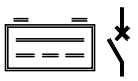
**RISK OF ELECTRIC SHOCK** - Indicates that a risk of electric shock is present and the associated warning should be observed.

**CAUTION: REFER TO OPERATOR'S MANUAL** - Refer to your operator's manual for additional information.

**BYPASS** - Indicates bypass control switches.

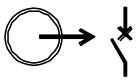


**INPUT BREAKER** - Indicates the input breaker, which shuts off utility power to the UPS electronics.



**BATTERY BREAKER** - Indicates the battery breaker, which shuts off battery power (power transmission through the battery cord).

**BATTERY CONNECTOR** - Indicates the battery connector, which remains electrically "hot" even with the battery breaker off. Keep covered when not in use.



**OUTPUT BREAKER** - Indicates an output breaker.



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CHAPTER 2

# SAFETY WARNINGS

## IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS. This manual contains important instructions that you should follow during installation of the UPS. Please read all instructions before operating the equipment and save this manual for future reference.

## DANGER

This UPS contains **LETHAL VOLTAGES**. All repairs and service should be performed by **AUTHORIZED SERVICE PERSONNEL ONLY**. There are **NO USER SERVICEABLE PARTS** inside the UPS.

## CAUTION

- Batteries can present a risk of electrical shock or burn from high short circuit current. Observe proper precautions.
- Proper disposal of batteries is required. Refer to your local codes for disposal requirements.
- This UPS contains its own energy source (batteries). The output receptacles may carry live voltage even when the UPS is not connected to an AC supply.
- Never dispose of batteries in a fire. Batteries may explode when exposed to flame.
- Never open or mutilate batteries. Released electrolyte is harmful to the skin and eyes, and may be extremely toxic.
- Use only the power supply cord provided with this UPS. The power cord is wired in accordance with National Electrical Code (NEC) specifications. Be sure the wall outlet to be used with the UPS is wired in accordance with these same specifications in order to avoid damage to your equipment. Be sure that overcurrent protection for the AC outlet is provided at the time of installation. Be sure the input plug is completely inserted into the wall outlet. Use a single-phase, three-wire, grounded AC outlet only.
- To reduce the risk of fire or electric shock, install this UPS in a temperature and humidity controlled, indoor environment, free of conductive contaminants. Ambient temperature must not exceed 104°F (40°C). Do not operate near water or excessive humidity (95% max).
- Do not remove or unplug the input cord when the UPS is turned on. This removes the safety ground from the UPS and the equipment connected to the UPS.



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- To comply with international standards and wiring regulations, the total equipment connected to the output of this UPS must not have an earth leakage current greater than 2.75 milliamperes.
- The wall outlet must be within 2 meters of the equipment and accessible to the operator. The on/off switch on the UPS does not electrically isolate the internal parts. Unplug the input cord from the wall outlet when disconnecting the unit for long periods of time.
- Please note that the output sockets on the UPS are electrically live whenever the UPS Output | On button is pressed, even if the input cord is disconnected.
- For PowerPass systems with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
- For PowerPass systems with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.

## Sikkerhedsanvisninger

### VIGTIGE SIKKERHEDSANVISNINGER
### GEM DISSE ANVISNINGER
### DENNE BRUGERVEJLEDNING INDEHOLDER VIGTIGE SIKKERHEDSANVISNINGER

**FARE**

Denne UPS indeholder LIVSFARLIG HØJSPÆNDING. Alle reparationer og vedligeholdelse bør kun udføres af en AUTORISERET SERVICETEKNIKER. Ingen af UPS'ens indvendige dele kan repareres af brugeren.

**ADVARSEL**

- Batterier kan udgøre en fare for elektrisk stød eller forbrændinger forårsaget af høj kortslutningsspænding. De korrekte forholdsregler bør overholdes.
- Korrekt bortskaffelse af batterier er påkrævet. Overhold gældende lokale regler for bortskaffelsesprocedurer.
- Denne UPS indeholder egen energiforsyning (batterier). Udgangsnetstikkene kan lede strøm, selv når UPS'en ikke er tilsat en AC-energikilde.
- Skaf dig aldrig af med batterierne ved at brænde dem. Batterierne kan eksplodere ved åben ild.



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- Batterierne bør aldrig åbnes eller skilles ad. Elektrolyt, der slipper ud, er skadelig for hud og øjne og kan være overordentlig giftig.
- Brug kun den netledning, som blev leveret med UPS'en. Denne netledning er tilsluttet ifølge specifikationerne for NEC (National Electrical Code). Sørg for, at stikket, som skal bruges til UPS'en, er tilsluttet ifølge de samme specifikationer for at undgå skade på dit udstyr. Sørg for, at der er overstrømsbeskyttelse på AC-stikket på monteringstidspunktet. Sørg for, at stikket er sat helt ind i stikkontakten. Brug en enfaset, -treledet AC-kilde, som er jordet.
- Installér denne UPS i et temperatur- og fugtighedskontrolleret indendørsmiljø, frit for ledende forureningsstoffer for at formindske risikoen for brand og elektrisk stød. Rumtemperaturen må ikke overstige 40°C. UPS'en bør ikke betjenes nær vand eller høj fugtighed (maksimalt 95%).
- Netledningen må ikke fjernes og stikket må ikke trækkes ud, mens UPS'en er tændt. Dette fjerner sikkerhedsjorden fra UPS'en og fra det udstyr, der er sat til.
- I overensstemmelse med internationale normer og bestemmelser for el-installation må det udstyr, der er forbundet til udgangen af denne UPS, tilsammen ikke overskride en jordafdelingsspænding på mere end 2,75 milliampere.
- Stikkontakten må højst være 2 meter fra udstyret og tilgængelig for brugeren. UPS'ens afbryderkontakt isolerer ikke elektrisk de indvendige dele. Træk derfor stikket ud af kontakten, hvis enheden er slukket i lang tid ad gangen.
- Bemærk venligst, at stikkontakterne på UPS'en er strømførende, når knappen UPS "*Output | On*" er trykket ned, selvom indgangsnedledningen ikke er tilsluttet.
- Med hensyn til Bypass-systemer med direkte forbundne udgange, skal overstrømsbeskyttelsen for AC-kredsen(e) komme andetsteds fra.
- Med hensyn til Bypass-systemer med direkte forbundne udgange, skal afbryderkontakter til AC-kredsløbet med passende mærkeeffekt komme andetsteds fra.

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# Belangrijke Veiligheidsinstructies

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES
## BEWAAR DEZE INSTRUCTIES
## DEZE HANDLEIDING BEVAT BELANGRIJKE VEILIGHEIDSINSTRUCTIES

**GEVAAR**

Deze UPS bevat LEVENSGEVAARLIJKE ELEKTRISCHE SPANNING. Alle reparaties en onderhoud dienen UITSLUITEND DOOR ERKEND SERVICEPERSONEEL te worden uitgevoerd. Er bevinden zich GEEN ONDERDELEN in de UPS die DOOR DE GEBRUIKER kunnen worden GEREPAREERD.

**OPGELET**

- Batterijen kunnen gevaar voor elektrische schok of brandwonden veroorzaken als gevolg van un hoge kortsluitstroom. Volg de desbetreffende aanwijzingen op.
- De batterijen moeten op de juiste wijze worden opgeruimd. Raadpleeg hiervoor uw plaatselijke voorschriften.
- Deze UPS bevat zijn eigen energiebron (batterijen). De uitgangsaansluitingen kunnen onder spanning staan wanneer de UPS niet op een wisselstroom voeding is aangesloten.
- Nooit batterijen in het vuur gooien. De batterijen kunnen ontploffen.
- Nooit batterijen openen of beschadigen. Vrijkomend elektrolyt is schadelijk voor de huid en ogen, en kan uiterst giftig zijn.
- Uitsluitend het elektriciteitssnoer gebruiken dat bij deze UPS wordt geleverd. Het snoer is volgens de specificaties van de IEC (International Electrical Code) bedraad. Controleer of wandcontactdoos waarop de UPS wordt aangesloten, volgens deze zelfde specificaties is bedraad teneinde schade aan uw apparatuur te voorkomen. Controleer of het wandcontactdoos voldoende is afgezeherd. Controleer of de voedingsstekker goed in het stopcontact is gestoken. Gebruik uitsluitend een enkelfasig geaard wandcontactdoos met randaarde.
- Teneinde de kans op brand of elektrische schok te verminderen dient deze UPS in een gebouw met temperatuur- en vochtigheidregeling te worden geïnstalleerd, waar geen geleidende verontreinigingen aanwezig zijn. De omgevingstemperatuur mag 40 °C niet overschrijden. Niet gebruiken in de buurt van water of bij zeer hoge vochtigheid (max. 95%).



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- Verwijder de ingangsnoer niet of haal de stekker van de ingangsnoer er niet uit terwijl de UPS aan staat. Hierdoor zou de UPS en uw aangesloten apparatuur geen aardebeveiliging meer hebben.
- Om aan de internationale normen en bedradingsvoorschriften te voldoen mag de gehele apparatuur die op de uitgang van deze UPS is aangesloten, geen aardlekstroom van meer dan 2,75 milliampère hebben.
- De hoofdvoedingcontactdoos moet zich op minder dan 2 meter van de apparatuur bevinden en makkelijk bereikbaar zijn voor de gebruiker. De aan/uit-schakelaar op de UPS biedt geen elektrische isolatie voor de inwendige onderdelen. De stekker uit de voedingcontactdoos halen wanneer het apparaat voor lange tijd niet wordt gebruikt.
- Neem er nota van dat de uitgangaansluit punten op de UPS altijd onder stroom staan wanneer de belastingschakelaar ( | ) wordt ingedrukt, ongeacht de aanwezigheid van de voeding.
- Voor Bypass systemen met vast-bedrade uitgangen, moet de overstroombeveiliging voor wisselstroom uitgangcircuit(s) door derden worden geleverd.
- Voor Bypass Module systemen met vast-bedrade uitgangen, moeten de juiste hoofdschakelaars voor wisselstroom uitgangcircuit(s) door derden worden geleverd.

## Tärkeitä turvaohjeita

### TÄRKEITÄ TURVAOHJEITA - SUOMI
### SÄILYTÄ NÄMÄ OHJEET
### TÄMÄ OPAS SISÄLTÄÄ TÄRKEITÄ TURVAOHJEITA

**VAARA**

Tämä UPS sisältää HENGENVAARALLISIA JÄNNITTEITÄ. Kaikki korjaukset ja huollot on jätettävä VAIN VALTUUTETUN HUOLTOHENKILÖN TOIMEKSI. UPS ei sisällä MITÄÄN KÄYTTÄJÄN HUOLLETTAVIA OSIA.

**VARO**

- Akusto saattaa aiheuttaa sähköiskun tai syttyä tuleen, jos akusto kytketään oikosulkuun. Noudata asianmukaisia ohjeita.
- Akusto täytyy hävittää säädösten mukaisella tavalla. Noudata paikallisia määräyksiä.



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- Tämä UPS sisältää oman energialähteen (akuston). Ulostuloliittimissä voi olla jännite, kun UPS ei ole liitettynä verkkojännitteeseen.
- Älä koskaan heitä akkuja tuleen. Ne voivat räjähtää.
- Älä avaa tai riko akkuja. Paljastunut elektrolyytti on vahingollinen iholle ja silmille ja voi olla erittäin myrkyllistä.
- Käytä vain tämän UPS-laitteen mukana toimitettua virtakaapelia, joka on kytketty kansallisten määräysten mukaisesti. Varmista, että UPS-laitteen kanssa käytetty pistorasia on johdotettu näiden samojen määritysten mukaisesti, jotta laitteet eivät vahingoittuisi. Varmista myös, että asennuksen yhteydessä vaihtovirran pistorasia varustetaan ylivirtasuojauksella. Työnnä kosketin kokonaan pistorasiaan. Käytä pelkästään yksivaihteista, kolmijohtoista, maadoitettua verkkopistorasiaa.
- Vähentääksesi tulipalon ja sähköiskun vaaraa asenna tämä UPS sisätiloihin, joissa lämpötila ja kosteus on säädettävissä ja joissa ei ole virtaa johtavia epäpuhtauksia. Ympäristön lämpötila ei saa ylittää 40 °C. Älä käytä lähellä vettä ja vältä kosteita tiloja (95 % maksimi).
- Älä poista tai irrota sisääntulojohtoa, kun UPS on kytkettynä. Tämä poistaa turvamaadoituksen UPS-laitteesta ja siihen liitetystä laitteistosta.
- Kansainväliset normit ja johdotusmääräykset vaativat, että kaikkien tämän UPS-laitteen ulostulokytkentöjen yhteinen maavuotovirta ei ylitä 2,75 milliampeeria (mA).
- Päävirtapistokkeen täytyy olla 2 m:n säteellä laitteistosta ja käyttäjän saatavilla. UPS-laitteen virtakytkin ei erota sisäosia verkkojännitteestä. Irrota sisääntulopistoke, jos kytket laitteen pois käytöstä pitkähköksi ajaksi.
- Ota myös huomioon, että UPS-laitteen ulostuloliittimissä on jännite aina kun painetaan UPSin lähtöteho PÄÄLLÄ -painiketta ( | ), riippumatta siitä, onko tulokaapeli kytkettynä tai ei.
- Tämän laitteen mukana ei toimiteta lähdön ylivirtasuojausta kiinteän asennuksen ohitusjärjestelmissä.
- Tämän laitteen mukana ei toimiteta lähdön johdonsuojakatkaisijoita jakeluja varten kiinteän asennuksen ohitusjärjestelmissä.



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# Consignes de sécurité

## CONSIGNES DE SÉCURITÉ IMPORTANTES
## CONSERVER CES INSTRUCTIONS
## CE MANUEL CONTIENT DES CONSIGNES DE SÉCURITÉ IMPORTANTES

**DANGER!**

Cet onduleur contient des TENSIONS MORTELLES. Toute opération d'entretien et de réparation doit être EXCLUSIVEMENT CONFIÉE A UN PERSONNEL QUALIFIÉ AGRÉÉ. AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR ne se trouve dans l'onduleur.

**ATTENTION!**

- Les batteries peuvent présenter un risque de décharge électrique ou de brûlure par des courts-circuits de haute intensité. Prendre les précautions nécessaires.
- Une mise au rebut réglementaire des batteries est obligatoire. Consulter les règlements en vigueur dans votre localité.
- Cet onduleur renferme sa propre source d'énergie (batteries). Les prises de sortie peuvent être sous tension même lorsque l'onduleur n'est pas branché sur le secteur.
- Ne jamais jeter les batteries au feu. L'exposition aux flammes risque de les faire exploser.
- Ne jamais ouvrir ou mutiler des batteries. L'électrolyte dégagé est nuisible à la peau et aux yeux et peut s'avérer extrêmement toxique.
- Utiliser uniquement le cordon d'alimentation fourni avec l'onduleur. Ce cordon est câblé conformément aux spécifications du Code électrique international (CEI). S'assurer que le câblage de la prise secteur devant être utilisée avec l'onduleur est lui aussi conforme à ces spécifications pour éviter d'endommager le matériel. S'assurer que la prise secteur est protégée contre les surcharges au moment de l'installation. S'assurer que la prise d'entrée est insérée à fond dans la prise secteur. Utiliser uniquement une prise secteur à trois fils, monophasée et mise à la terre.
- Pour réduire les risques d'incendie et de décharge électrique, installer l'onduleur uniquement à l'intérieur, dans un lieu dépourvu de matériaux conducteurs, où la température et l'humidité ambiantes sont contrôlées. La température ambiante ne doit pas dépasser 40 °C. Ne pas utiliser à proximité d'eau ou dans une atmosphère excessivement humide (95 % maximum).



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- Ne pas retirer le cordon d'alimentation lorsque l'onduleur est sous tension sous peine de supprimer la mise à la terre de l'onduleur et du matériel connecté.
- Afin d'être conforme aux normes et règlements internationaux de câblage, le courant de fuite à la terre de la totalité du matériel branché sur la sortie de l'onduleur ne doit pas dépasser 2,75 mA.
- La prise secteur doit se trouver à moins de 2 m du matériel et être accessible à l'utilisateur. L'interrupteur de ON/OFF (marche/arrêt) de l'onduleur n'assure pas l'isolation électrique des pièces internes. Débrancher le cordon d'alimentation de la prise secteur en cas de déconnexion de l'appareil pendant une période prolongée.
- Noter que les prises de sortie de l'onduleur sont sous tension lorsque Output | On buttonest enfoncé, même si le cordon d'alimentation est débranché de la prise secteur.
- Pour les systèmes de bypass dotés de sortie à bornier, la protection contre les surintensités des circuits de sortie de courant alternatif est à se procurer auprès d'un autre fournisseur.
- Pour les systèmes de bypass dotés de sortie à bornier, les interrupteurs adaptés au circuit de courant alternatif sont à se procurer auprès d'un autre fournisseur.

## Sicherheitswarnungen

### WICHTIGE SICHERHEITSANWEISUNGENANLEITUNGEN AUFBEWAHREN.DIESES HANDBUCH ENTHÄLT WICHTIGE SICHERHEITSANWEISUNGEN.

**WARNUNG**

Die USV führt lebensgefährliche Spannungen. Alle Reparatur- und Wartungsarbeiten sollten nur von Kundendienstfachleuten durchgeführt werden. Die USV enthält keine vom Benutzer zu wartenden Komponente

**VORSICHT!**

- Batterien können aufgrund des hohen Kurzschlußstroms Elektroschocks oder Verbrennungen verursachen. Die entsprechenden Vorsichtsmaßnahmen sind unbedingt zu beachten.
- Die Batterien müssen ordnungsgemäß entsorgt werden. Hierbei sind die örtlichen Bestimmungen zu beachten.en.



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- Diese USV ist mit einer eigenen Energiequelle (Batterie) ausgestattet. An den Ausgangssteckdosen kann auch dann Spannung anliegen, wenn die USV nicht an einer Wechselspannungsquelle angeschlossen ist.
- Batterien niemals verbrennen, da sie explodieren können.
- Batterien nie öffnen oder anderweitig beschädigen. Der darin enthaltene Elektrolyt wirkt ätzend auf Haut und Augen. Es besteht Vergiftungsgefahr!
- Nur das Netzkabel verwenden, das dieser USV beiliegt. Dieses Kabel ist gemäß den Spezifikationen des International Electrical Code (IEC) verdrahtet. Sicherstellen, daß die Wandsteckdose, die für die USV verwendet wird, gemäß den selben Spezifikationen verdrahtet ist, um eine eschädigung der Geräte zu vermeiden. Sicherstellen, daß bei Installation ein Überstromschutz für die Wechselstromsteckdose vorhanden ist. Sicherstellen, daß der Eingangsstecker vollständig in die Wandsteckdose eingesteckt wurde. Nur eine einphasige, geerdete Dreileiter-Wechselstromsteckdose verwenden.
- Um die Brand- oder Elektroschockgefahr zu verringern, diese USV nur in Gebäuden mit kontrollierter Temperatur und Luftfeuchtigkeit installieren, in denen keine leitenden Schmutzstoffen vorhanden sind. Die Umgebungstemperatur darf 40°C nicht übersteigen. Die USV nicht in der Nähe von Wasser oder in extrem hoher Luftfeuchtigkeit (max. 95 %) betreiben.
- Das Eingangskabel nicht entfernen oder abziehen, während die USV eingeschaltet ist, weil hierdurch die Sicherheitserdung von der USV und den daran angeschlossenen Geräten entfernt wird.
- Um internationale Normen und Verdrahtungsvorschriften zu erfüllen, dürfen die an den Ausgang dieser USV angeschlossenen Geräte zusammen einen Erdschlußstrom von insgesamt 2,75 Milliampere nicht überschreiten.
- Die Netzsteckdose, die zur Hauptversorgung verwendet wird, darf sich nicht weiter als 2 Meter vom Gerät weg befinden und muß für den Bediener erreichbar sein. Der Ein-/Aus-Schalter der USV bietet keine elektrische Isolation der internen Teile. Wenn das Gerät längere Zeit nicht benutzt wird, sollte es von der Netzsteckdose abgezogen werden.
- Beachten, daß die Ausgangssteckdosen auf der USV jedesmal Strom führen, wenn der Belastungsschalter ( | ) gedrückt wird, ungeachtet dessen, ob die USV mit Strom versorgt wird.



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- Für Bypass-Systeme mit festverdrahteten Eingängen muß der Überstromschutz für die Ausgangswechselstromkreise anderweitig bereitgestellt werden.
- Für Bypass-Systeme mit festverdrahteten Ausgängen müssen Trennschalter für die Ausgangswechselstromkreise mit passendem Nennwert anderweitig bereitgestellt werden.

# Προειδοποιήσεις Ασφάλειας

## ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΠΕΡΙΕΧΕΙ ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

**Κ Ι Ν Δ Υ Ν Ο Σ**

Αυτό το UPS περιέχει ΘΑΝΑΤΗΦΟΡΑ ΤΑΣΗ. Όλες οι επισκευές και οι συντηρήσεις πρέπει να γίνονται ΜΟΝΟ ΑΠΟ ΕΞΟΥΣΙΟΔΟΤΗΜΕΝΟ ΓΙΑ ΤΗ ΣΥΝΤΗΡΗΣΗ ΠΡΟΣΩΠΙΚΟ. Το UPS ΔΕΝ ΠΕΡΙΕΧΕΙ ΚΑΝΕΝΑ ΕΞΑΡΤΗΜΑ ΠΟΥ ΝΑ ΜΠΟΡΕΙ ΝΑ ΕΠΙΣΚΕΥΑΣΤΕΙ ΑΠΟ ΤΟ ΧΡΗΣΤΗ.

**Π Ρ Ο Σ Ο Χ Η**

- Οι συσσωρευτές μπορεί να προκαλέσουν ηλεκτροπληξία ή έγκαυμα από υψηλό ρεύμα βραχυκυκλώματος. Λαμβάνετε τις κατάλληλες προφυλάξεις.
- Απαιτείται σωστή διάθεση των συσσωρευτών. Δείτε τους τοπικούς κανονισμούς που αφορούν τις απαιτήσεις διάθεσής τους.
- Το συγκεκριμένο UPS περιέχει τη δική του πηγή ενέργειας (συσσωρευτές). Οι ρευματοδότες εξόδου μπορεί να έχουν ενεργό τάση ακόμη και όταν το UPS δεν είναι συνδεδεμένο σε πηγή εναλλασσόμενου ρεύματος (AC).
- Ποτέ μην πετάτε τους συσσωρευτές στη φωτιά, γιατί μπορεί να εκραγούν.
- Ποτέ μην ανοίγετε ή καταστρέφετε τους συσσωρευτές. Ο ηλεκτρολύτης που θα απελευθερωθεί μπορεί να προκαλέσει βλάβη στο δέρμα και τα μάτια, και μπορεί να είναι εξαιρετικά τοξικός.



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- Χρησιμοποιείτε μόνο το καλώδιο τροφοδοσίας που παρέχεται μαζί με το UPS. Το καλώδιο αυτό είναι κατασκευασμένο σύμφωνα με τις προδιαγραφές του Εθνικού Ηλεκτρικού Κώδικα (National Electrical Code) (NEC). Βεβαιωθείτε ότι η εντοιχισμένη πρίζα που πρόκειται να χρησιμοποιήσετε με το UPS είναι καλωδιωμένη σύμφωνα με τις ίδιες προδιαγραφές, ώστε να αποφευχθεί τυχόν βλάβη στον εξοπλισμό σας. Βεβαιωθείτε ότι υπάρχει σύστημα προστασίας από υπερένταση για την πρίζα εναλλασσόμενου ρεύματος (AC) την ώρα της εγκατάστασης. Βεβαιωθείτε ότι ο ρευματολήπτης εισόδου έχει τοποθετηθεί σωστά στην πρίζα τοίχου. Χρησιμοποιήστε μόνο μονοφασική, τρισύρματη, γειωμένη πρίζα AC.
- Για να μειώσετε τον κίνδυνο πυρκαγιάς ή ηλεκτροπληξίας, εγκαταστήστε το συγκεκριμένο UPS σε εσωτερικό χώρο με ελεγχόμενη θερμοκρασία και υγρασία, ο οποίος να μην περιέχει αγώγιμα υλικά. Η θερμοκρασία περιβάλλοντος δεν πρέπει να ξεπερνάει τους 40° C. Μη χρησιμοποιείτε το UPS κοντά σε νερό ή υπερβολική υγρασία (μέγιστη τιμή: 95%).
- Μην βγάζετε από την πρίζα το καλώδιο τροφοδοσίας όταν το UPS είναι ανοιχτό. Μ' αυτό τον τρόπο αφαιρείτε τη γείωση ασφαλείας από το UPS και από τον εξοπλισμό που είναι συνδεδεμένος με το UPS.
- Για να συμφωνεί με τα διεθνή πρότυπα και τους κανονισμούς καλωδίωσης, το ρεύμα διαρροής προς τη γη ολόκληρου του εξοπλισμού, που είναι συνδεδεμένος με την έξοδο του συγκεκριμένου UPS, δεν πρέπει να είναι μεγαλύτερο από 2,75 mA.
- Η πρίζα τοίχου δεν πρέπει να βρίσκεται σε απόσταση μεγαλύτερη από 2 μέτρα από τον εξοπλισμό και πρέπει να είναι προσπελάσιμη στο χρήστη. Ο διακόπτης on/off του UPS δεν απομονώνει ηλεκτρικά τα εσωτερικά μέρη. Όταν αποσυνδέετε τη μονάδα για μεγάλα χρονικά διαστήματα, βγάζετε το καλώδιο εισόδου από την πρίζα.
- Σημειώστε ότι οι υποδοχές εξόδου του UPS βρίσκονται υπό ενεργό τάση όποτε είναι πατημένο το πλήκτρο Έξοδος Ενεργοποιημένη ( | ), ακόμη και αν το καλώδιο τροφοδοσίας είναι αποσυνδεδεμένο.
- Για συστήματα Παράκαμψης με καλωδιωμένες εξόδους, η προστασία από την υπερένταση για το κύκλωμα (τα κυκλώματα) εξόδου AC πρέπει να παρέχεται από τρίτους.
- Στα συστήματα Παράκαμψης με καλωδιωμένες εξόδους, οι διακόπτες αποσύνδεσης που είναι κατάλληλοι για το κύκλωμα (κυκλώματα) εξόδου AC πρέπει να παρέχονται από τρίτους.



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# Avvisi di sicurezza

## IMPORTANTI ISTRUZIONI DI SICUREZZA
## CONSERVARE QUESTE ISTRUZIONI
## QUESTO MANUALE CONTIENE IMPORTANTI ISTRUZIONI DI SICUREZZA

**PERICOLO**

la TENSIONE contenuta in questo gruppo statico di continuità è LETALE. Tutte le operazioni di riparazione e di manutenzione devono essere effettuate ESCLUSIVAMENTE DA PERSONALE TECNICO AUTORIZZATO. All'interno del gruppo statico di continuità NON vi sono PARTI RIPARABILI DALL'UTENTE.

**ATTENZIONE**

- le batterie possono presentare rischio di scossa elettrica o di ustioni provocate da alta corrente dovuta a corto circuito. Osservare le apposite istruzioni.
- le batterie devono essere smaltite in modo corretto. Per i requisiti di smaltimento fare riferimento alle disposizioni locali.
- questo gruppo statico di continuità contiene una fonte di energia autonoma (le batterie). Le prese di uscita possono condurre tensione energizzata quando il gruppo statico di continuità non è collegato con una fonte di alimentazione a corrente alternata.
- non gettare mai le batterie nel fuoco poichè potrebbero esplodere se esposte alle fiamme.
- mai aprire nè mutilare le batterie poichè l'elettrolita da esse rilasciato è nocivo alla cute e agli occhi e può essere altamente tossico.
- usare esclusivamente il cavo di alimentazione in dotazione con il gruppo statico di continuità. Il cavo di alimentazione è cablato in conformità con le specifiche del Codice Elettrico Internazionale (IEC). Assicurarsi che la presa a muro nella quale si deve inserire il gruppo statico di continuità sia cablata in conformità con le medesime specifiche onde evitare di danneggiare l'apparecchiatura. Accertarsi che al momento dell'installazione la presa a corrente alternata sia protetta contro le sovracorrenti. Assicurarsi che la spina di ingresso sia completamente inserita nella presa a muro. Usare esclusivamente una presa a corrente alternata monofase, a tre fili, collegata a terra.



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- per ridurre il rischio di incendio o di scossa elettrica, installare il gruppo statico di continuità in un ambiente interno a temperatura ed umidità controllata, privo di agenti contaminanti conduttivi. La temperatura ambiente non deve superare i 40°C. Non utilizzare l'unità in prossimità di acqua o in presenza di umidità eccessiva (95% max).
- non rimuovere nè scollegare il cavo di ingresso quando il gruppo statico di continuità è acceso poichè in tal modo si disattiverebbe il collegamento a terra di sicurezza del gruppo statico di continuità e dell'apparecchiatura ad esso collegata.
- per conformità con gli standard internazionali e con le norme in merito al cablaggio, tutta l'apparecchiatura collegata con l'uscita del gruppo statico di continuità non deve avere una corrente di dispersione di terra superiore a 2,75 milliampere.
- la presa di alimentazione principale non deve trovarsi a oltre 2 metri dall'apparecchiatura e deve essere accessibile all'operatore. L'interruttore on/off del gruppo statico di continuità non isola elettricamente i componenti interni. Scollegare l'unità dalla presa di alimentazione quando rimane in riposo per lunghi periodi di tempo.
- si noti che le prese di alimentazione di uscita del gruppo statico di continuità sono elettricamente energizzate ogniqualvolta viene premuto l'interruttore azzurro di ( ) attivazione uscita, a prescindere dal fatto che il gruppo statico di continuità sia alimentato o meno.
- nei sistemi Bypass provvisti di uscite cablate, i dispositivi di protezione da sovracorrente per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.
- nei sistemi Bypass provvisti di uscite cablate, i sezionatori di corrente nominale adeguata per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.

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# Viktig Sikkerhetsinformasion

**FARLIG**

Denne UPS'en inneholder LIVSFARLIGE SPENNINGER. All reparasjon og service må kun utføres av AUTORISERT SERVICEPERSONALE. BRUKERE KAN IKKE UTFØRE SERVICE PÅ NOEN AV DELENE i UPS'en.

**FORSIKTIG**

- Batterier kan forårsake elektriske støt eller forbrenning på grunn av høy kortslutningsstrøm. Følg instruksene.
- Batterier må fjernes på korrekt måte. Se lokale forskrifter vedrørende krav om fjerning av batterier.
- Denne UPS'en har en egen energikilde (batterier). Stikkontaktene kan være strømførende selv om UPS'en ikke er tilsluttet en vekselstrømforsyning.
- Kast aldri batterier i flammer, da de kan eksplodere, hvis de utsettes for åpen ild.
- Batterier må aldri åpnes eller ødelegges. Frigjorte elektrolytter er skadelige for hud og øyne og kan være ekstremt giftige.
- Bruk kun den strømforsyningskabelen som følger med denne UPS'en. Strømkabelen er koblet i overensstemmelse med spesifikasjonene i IECs (International Electrical Code) bestemmelser. Sjekk at stikkontakten som anvendes for UPS'en er koblet i overensstemmelsen med de samme spesifikasjonene for å unngå skade på utstyr. Sjekk også at det finnes overstrømvern for vekselstrømkontakten under installeringen. Sjekk at støpselet er ført helt inn i stikkontakten. Bruk kun en en-faset, tre-trådet, jordet vekselstrømkontakt.
- For å redusere fare for brann eller elektriske støt, bør denne UPS'en installeres i et innendørs miljø med kontrollert temperatur og luftfuktighet som er fritt for ledende, forurensende stoffer. Romtemperaturen må ikke overskride 40°C. Den må ikke brukes i nærheten av vann eller ved meget høy luftfuktighet (95% maks.).
- Strømforsyningskabelen må ikke fjernes eller trekkes ut når UPS'en er på, slik at ikke sikkerhetsjordingen fjernes fra UPS'en og det utstyret som er forbundet med den.
- Alt utstyr som er forbundet med utgangen av denne UPS'en må ikke ha en sterkere total lekkasjestrøm enn 2,75 milliampere for å være i overensstemmelse med internasjonale standarder og forkablingsbestemmelser.
- Stikkontakten må befinne seg innen 2 m fra utstyret og må være tilgjengelig for operatøren. Av/På-bryteren på UPS'en isolerer ikke de interne delene. Trekk ut ledningen fra stikkontakten når utstyret frakoples over lengre tidsrom.



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- UPS'ens stikkontakter for utgangsstrømforsyning er strømførende når lastbryteren ( | ) trykkes, uavhengig av strømforsyningen.
- For PowerPass systemer med fastkoplete uttak, må overstrømvern for vekselstrømuttak(ene) stilles til rådighet av andre.
- For PowerPass systemer med fastkoplete uttak, må passende utkoplingsbrytere for vekselstrømuttak(ene) stilles til rådighet av andre.

## Regulamentos de Segurança

### INSTRUÇÕES DE SEGURANÇA IMPORTANTES
### GUARDE ESTAS INSTRUÇÕES
### ESTE MANUAL CONTÉM INSTRUÇÕES DE SEGURANÇA IMPORTANTES

**CUIDADO**

A UPS contém VOLTAGEM MORTAL. Todos os reparos e assistência técnica devem ser executados SOMENTE POR PESSOAL DA ASSISTÊNCIA TÉCNICA AUTORIZADO. Não há nenhuma PEÇA QUE POSSA SER REPARADA PELO USUÁRIO dentro da UPS.

**PERIGO**

- As baterias podem apresentar o risco de choque elétrico, ou queimaduras provenientes de alta corrente de curto-circuito. Observe as instruções adequadas.
- Siga as instruções apropriadas ao desfazer-se das baterias. Consulte os códigos do local para maiores informações sobre os regulamentos de descarte de produtos.
- Esta UPS contém sua própria fonte de energia (baterias). Os receptáculos de saída podem conter voltagem ativa quando a UPS não se encontra conectada a uma fonte de alimentação de corrente alternada.
- Nunca jogue as baterias no fogo, porque há risco de explosão.
- Nunca abra ou danifique as baterias. O eletrólito liberado é prejudicial à pele e aos olhos e pode ser extremamente tóxico.



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- Utilize somente o cabo de alimentação elétrica fornecido com a UPS. Este cabo foi fabricado de acordo com as especificações do IEC (International Electrical Code). Certifique-se de que a tomada de parede foi montada de acordo com estas mesmas especificações a fim de evitar danos ao seu equipamento. Na hora da instalação, verifique se foi fornecida uma proteção contra sobrecarga de circuito para a tomada de corrente alternada. Verifique se o plugue de entrada está completamente inserido na tomada de parede. Utilize somente uma tomada de corrente alternada aterrada, trifilar, monofásica.
- Para reduzir o risco de incêndios ou choques elétricos, instale a UPS em ambiente interno com temperatura e umidade controladas e livres de contaminadores condutíveis. A temperatura ambiente não deve exceder 40°C. Não opere próximo a água ou em umidade excessiva (máx: 95%).
- Não remova ou desconecte o cabo de entrada quando a UPS estiver ligada. Isto removerá o aterramento de segurança da UPS e do equipamento conectado.
- Para estar de acordo com os padrões internacionais e os regulamentos de fiação, o equipamento total conectado à saída desta UPS não deve ter uma corrente de fuga à terra maior que 2,75 miliampères.
- O soquete de alimentação principal deve estar no máximo dois metros do equipamento e acessível ao operador. O interruptor on/off da UPS não isola eletricamente as peças internas. Desconecte-o do soquete de alimentação se não for usá-lo por um longo período.
- Favor observar que o soquete de alimentação de saída na UPS estará eletricamente ativo todas as vezes que o interruptor ( | ) estiver pressionado, indiferente à presença de energia elétrica na rede de alimentação.
- Para sistemas Bypass com saídas conectadas, a proteção de sobrecarga para circuitos de saída de corrente alternada deve ser fornecida por outros.
- Para sistemas Bypass com saídas conectadas, interruptores de desconexão devidamente qualificados para circuitos de saída de corrente alternada devem ser fornecidos por outros.



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# Предупреждения по мерам безопасности

## ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ СОХРАНИТЕ ЭТИ УКАЗАНИЯ ДАННОЕ РУКОВОДСТВО СОДЕРЖИТ ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ

### ОПАСНО

В данном ИБП имеются СМЕРТЕЛЬНО ОПАСНЫЕ НАПРЯЖЕНИЯ. Все работы по ремонту и обслуживанию должны выполняться ТОЛЬКО УПОЛНОМОЧЕННЫМ ОБСЛУЖИВАЮЩИМ ПЕРСОНАЛОМ. Внутри ИБП нет узлов, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.

### ОСТОРОЖНО

- Аккумуляторы могут вызвать опасность поражения электрическим током или ожога от тока короткого замыкания. Соблюдайте соответствующие меры предосторожности.
- Необходимо соблюдать правила утилизации аккумуляторов. Обратитесь к местным нормативным актам за информацией о требованиях к утилизации.
- Данный ИБП содержит собственные источники энергии (аккумуляторы). На выходных розетках может иметься напряжение, даже когда ИБП не подключен к сети переменного тока.
- Никогда не бросайте аккумуляторы в огонь. Аккумуляторы могут взорваться под воздействием огня.
- Никогда не открывайте и не деформируйте аккумуляторы. Вытекающий электролит опасен для кожи и глаз, и может быть крайне токсичным.
- Пользуйтесь только сетевым шнуром, поставляемым в комплекте с ИБП. Разводка сетевого шнура выполнена в соответствии с требованиями Международных электрических норм (IEC). Во избежание повреждения Вашего оборудования убедитесь в том, что разводка настенной розетки, которая будет использоваться с ИБП, выполнена в соответствии с теми же требованиями. Убедитесь во время установки в том, что розетка оснащена средствами защиты от перегрузки по току. Убедитесь в том, что входная вилка надежно вставлена в настенную розетку. Пользуйтесь только однофазной трехпроводной заземленной розеткой переменного тока.



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- Для снижения опасности пожара или поражения электрическим током устанавливайте ИБП в закрытом помещении с контролируемыми температурой и влажностью, в котором отсутствуют проводящие загрязняющие вещества. Температура окружающего воздуха не должна превышать 40°C. Не эксплуатируйте устройство около воды или в местах с повышенной влажностью (макс. 95%).
- Не отсоединяйте сетевой шнур и не извлекайте его вилку из розетки при включенном ИБП. При этом защитное заземление отключается от ИБП и от оборудования, подключенного к ИПБ.
- Для обеспечения соблюдения требований международных стандартов и требований к разводке электрических цепей, суммарная величина тока утечки на землю всего оборудования, подключенного к выходу ИБП, не должна превышать 2,75 миллиампера.
- Настенная розетка должна находиться в пределах 2 метров от оборудования и быть доступной для оператора. Выключатель ИБП не отключает внутренние узлы от входного электропитания. При отключении оборудования на продолжительные интервалы времени отсоедините входной сетевой шнур от настенной розетки.
- Пожалуйста, обратите внимание на то, что выходные розетки ИБП находятся под электрическим напряжением, если была нажата кнопка включения выхода ( | ) ИБП, даже если входной сетевой шнур отключен.
- Для блока байпаса с неразъемными выходами защита от перегрузки по току выходной(ых) цепи(ей) переменного тока должна обеспечиваться сторонними организациями.
- Для блока байпаса с неразъемными выходами сторонними организациями должны быть обеспечены выключатели выходной(ых) цепи(ей) переменного тока, рассчитанные на соответствующий номинал.



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# Advertencias de Seguridad

## INSTRUCCIONES DE SEGURIDAD IMPORTANTES
## GUARDE ESTAS INSTRUCCIONES
## ESTE MANUAL CONTIENE INSTRUCCIONES DE SEGURIDAD IMPORTANTES

**PELIGRO**

Este SIE contiene VOLTAJES MORTALES. Todas las reparaciones y el servicio técnico deben ser efectuados SOLAMENTE POR PERSONAL DE SERVICIO TÉCNICO AUTORIZADO. No hay NINGUNA PARTE QUE EL USUARIO PUEDA REPARAR dentro del SIE.

**PRECAUCIÓN**

- Las baterías pueden presentar un riesgo de descargas eléctricas o de quemaduras debido a la alta corriente de cortocircuito. Preste atención a las instrucciones correspondientes.
- Es necesario desechar las baterías de un modo adecuado. Consulte las normas locales para conocer los requisitos pertinentes.
- Este SIE contiene su propia fuente de energía (las baterías). Los receptáculos de salida pueden transmitir corriente eléctrica aun cuando el SIE no esté conectado a un suministro de corriente alterna (c.a.).
- Nunca deseche las baterías en el fuego. Las baterías pueden explotar si se las expone a la llama.
- Nunca abra ni dañe las baterías. El electrolito que se libera es perjudicial para la piel y los ojos, y puede ser extremadamente tóxico.
- Utilice solamente el cable de entrada que se suministra con este SIE. El cable está instalado según las especificaciones del NEC (Código Eléctrico Nacional). Asegúrese de que el tomacorriente de la pared a utilizar con el SIE esté instalado según estas mismas especificaciones a fin de evitar daños en sus equipos. Asegúrese de que se coloca una protección contra sobreintensidad para el tomacorriente de c.a. en el momento de la instalación. Asegúrese de que el enchufe de entrada se inserte por completo dentro del tomacorriente de la pared. Utilice solamente un tomacorriente monofásico con tres cables de carga en c.a. con descarga a tierra.
- Para reducir el riesgo de incendio o de choque eléctrico, instale este SIE en un lugar cubierto, con temperatura y humedad controladas, libre de contaminantes conductores. La temperatura ambiente no debe exceder los 40° C. No trabaje cerca del agua o con humedad excesiva (95% máximo).



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- No retire o desenchufe el cable de entrada mientras el SIE se encuentre encendido. Esto suprime la descarga a tierra de seguridad del SIE y de los equipos conectados al SIE.
- Para cumplir con los estándares internacionales y las normas de instalación, la totalidad de los equipos conectados a la salida de este SIE no debe tener una intensidad de pérdida a tierra superior a los 2,75 miliamperios.
- El tomacorriente debe encontrarse a menos de 2 metros del equipo y ser accesible para el operador. El interruptor de encendido/apagado del SIE no tiene aislación eléctrica de las partes internas. Desenchufe el cable de entrada del tomacorriente de la pared cuando desconecte la unidad durante períodos largos.
- Tenga en cuenta que los receptáculos de salida del SIE tienen corriente eléctrica siempre que se oprime el botón pulsador de conexión de salida del SIE (Output ON), aun cuando el cable de entrada esté desconectado.
- Para los sistemas de bypass con salidas cableadas, la protección por sobreintensidad para el (los) circuito(s) de la salida de c.a. se deberá adquirir a un tercero.
- Para los sistemas de bypass con salidas cableadas, los interruptores de desconexión regulados adecuadamente para el (los) circuito(s) de la salida de c.a. deberán ser adquiridos a un tercero.

## Säkerhetsföreskrifter

### VIKTIGA SÄKERHETSFÖRESKRIFTER
### SPARA DESSA FÖRESKRIFTER
### DENNA BRUKSANVISNING INNEHÅLLER VIKTIGA SÄKERHETSFÖRESKRIFTER

**FARA**

Denna UPS-enhet innehåller LIVSFARLIG SPÄNNING. ENDAST AUKTORISERAD SERVICEPERSONAL får utföra reparationer eller service. Det finns inga delar som ANVÄNDAREN KAN UTFÖRA SERVICE PÅ inuti UPS-enheten.

**VIKTIGT**

- Batterierna kan ge elektriska stötar eller brännskador från hög kortslutningsström. Följ tillämpliga anvisningar.
- Batterierna måste avyttras enligt anvisningarna i lokal lagstiftning.



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- Denna UPS-enhet har en egen energikälla (batterier). De utgående kontakterna kan vara strömförande när UPS-enheten inte är ansluten till en växelströmkälla.
- Använda batterier får aldrig brännas upp. De kan explodera.
- Öppna aldrig batterierna eller ta isär dem. Utsläppt elektrolyt är skadlig för hud och ögon och kan vara mycket giftig.
- Använd endast den nätsladd som medföljer denna UPS-enhet. Nätsladden är kompatibel med IEC-specifikationerna (International Electrical Code). Kontrollera att det vägguttag som ska användas med UPS-enheten är draget enligt samma specifikationer, så att skada på utrustningen undviks. Kontrollera att det finns överspänningsskydd för växelströmsuttaget vid installationstillfället. Kontrollera att UPS-kontakten är ordentligt inskjuten i vägguttaget. Använd endast ett enfasigt, jordat växelströmsuttag.
- Minska risken för brand eller elektriska stötar genom att installera denna UPS-enhet inomhus, där temperatur och luftfuktighet är kontrollerade och där inga ledande föroreningar förekommer. Omgivande temperatur får ej överstiga 40°C. Använd inte utrustningen nära vatten eller vid hög luftfuktighet (max 95 %).
- Ta aldrig bort nätsladden när UPS-enheten är påslagen. Detta tar bort säkerhetsjordningen från både UPS-enheten och den anslutna utrustningen.
- För att överensstämma med internationell standard och dragningsföreskrifter får inte den totala utrustning som anslutits till uttaget på denna UPS-enhet ha jordanslutningsström som överstiger 2,75 milliampere.
- Vägguttaget får vara högst 2 meter från utrustningen och måste vara inom räckhåll för användaren. UPS-enhetens strömbrytare isolerar inte elektriskt de interna delarna. Vid längre avstängning bör nätsladden dras ur vägguttaget.
- Observera att UPS-enhetens uttag är strömförande när laddningsström-brytaren (Output | On button) trycks ned, oberoende av om spänningskällan är tillkopplad eller inte.
- Överströmsskydd för de utgående växelströmkretsarna ska tillhandahållas av andra för fast anslutna förbikopplingssystem.
- Strömbrytare för bortkoppling med passande dimensioner för de utgående växelströmkretsarna ska tillhandahållas av andra för fast anslutna förbikopplingssystem.



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# Zasady bezpieczeństwa pracy

## WAŻNE UPOMNIENIA NALEŻY JE ZACHOWAĆ W TEJ INSTRUKCJI ZNAJDUJĄ SIĘ WAŻNE POUCZENIA NA TEMAT BEZPIECZEŃSTWA PRACY

**NIEBEZPIECZEŃSTWO**

W tym UPS znajdują się NAPIĘCIA ZAGRAŻAJĄCE ŻYCIU. Wszelkie naprawy i czynności obsługowe mogą wykonywać JEDYNIE OSOBY WYKWALIFIKOWANE. W urządzeniu NIE MA CZĘŚCI OBSŁUGIWANYCH PRZEZ UŻYTKOWNIKA.

**OSTROŻNIE**

- Prąd zwarcia baterii grozi porażeniem elektrycznym lub poparzeniem. Należy zachować ostrożność.
- Baterie muszą być usunięte we właściwy sposób. Należy sprawdzić lokalne przepisy w tej sprawie.
- Ten UPS posiada własne źródła energii. Gniazda wyjścia mogą być pod napięciem nawet wówczas, gdy UPS nie jest podłączony do sieci.
- Nigdy nie należy wrzucać baterii do ognia, gdyż mogą one w nim eksplodować.
- Nigdy nie należy baterii otwierać ani dziurawić. Znajdujący się w nich elektrolit jest szkodliwy dla skóry i oczu oraz może być wysoce toksyczny.
- Należy stosować jedynie kabel zasilający dostarczony wraz z UPS. Kabel jest skonstruowany zgodnie ze specyfikacjami NEC. Aby uniknąć uszkodzenia sprzętu, należy się upewnić, że gniazdo stosowane do zasilania UPS jest okablowane zgodnie z tymi samymi specyfikacjami. Podczas instalacji gniazdo musi zostać wyposażone w ochronę przed przetężeniem. Wtyczka musi być mocno osadzona w gnieździe naściennym. Należy stosować jedynie gniazda trójprzewodowe prądu zmiennego jednofazowego.
- Aby zmniejszyć zagrożenie pożarem i porażeniem prądem, UPS należy instalować we wnętrzu z regulowaną temperaturą i wilgotnością, wolnym od zanieczyszczeń przewodzących. Temperatura otoczenia nie może przekraczać 40Ç. Nie używać w pobliżu wody ani w środowisku bardzo wilgotnym (95% maksimum).



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- Nie należy usuwać kabla ani wyjmować wtyczki z gniazda, gdy UPS jest włączony. Powoduje to odziemienie UPS i przyłączonego sprzętu.
- Dla zachowania zgodności z międzynarodowymi normami i przepisami dotyczącymi okablowania, wszelki sprzęt przyłączony do UPS nie może mieć upływów prądu przyziemienia większych niż 2,75 mA.
- Ścienne gniazdo zasilania musi się znajdować nie dalej niż 2 m od sprzętu i być dostępne dla operatora. Wyłącznik na UPS nie izoluje elektrycznie części wewnętrznych. Gdy urządzenie nie jest użytkowane przez dłuższy okres, należy wyjąć wtyczkę kabla z gniazda ściennego.
- Należy pamiętać, że gniazda wyjściowe na UPS są pod napięciem, ilekroć naciśnięty zostanie przycisk ON ( | ) , nawet jeżeli kabel zasilania jest odłączony.
- Dla systemów OBEJŚCIA o trwale połączonych wyjściach użytkownik musi zapewnić ochronę przed przetężeniem.
- Dla systemów OBEJŚCIA o trwale połączonych wyjściach użytkownik musi zapewnić wyłączniki o odpowiednich danych znamionowych dla obwodów wyjścia prądu zmiennego.



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# 安 全 警 告

**重要安全说明**
**保留这些说明**
**本手册包含重要安全说明**

**危险** *该UPS有高压电，所有维修和保养工作只能由经授权的服务人员进行。在UPS内，没有用户可自行修理的部件。*

**注意** *电池可能导致触电或由于瞬间大电流造成烧伤。留意遵守预防措施。*

**注意** *要求正确处置电池，参考当地有关废弃物的规定。*

**注意** *该UPS有自己的电源（电池），即使UPS没有连接到交流电路上，输出插座也可能有电压。*

**注意** *绝不允许将电池丢到火中；遇火时，电池可能爆炸。*

**注意** *绝不允许打开或破坏电池，释放出的电解液会损害皮肤和眼睛，甚至有剧毒。*

**注意** *只能使用随UPS提供的电源连线。该电源线已按国家电气规定（NEC）中的技术要求布线。要保証UPS使用的墙上交流电源插座的布线符合相同技术要求，以避免损坏您的设备。要保証交流电源插座有过流保护；要保証UPS输入插座全部插到墙上插座中，只能使用单相、三线、接地的交流插座。*

**注意** *为减小失火或触电的危险，UPS应安装在能控制温度和湿度的室内环境中，不能有导电的杂物。环境温度不能超过摄氏40度。不要在有水或过湿（最高湿度95%）的地方使用。*

**注意** *UPS处于启动状态时，不要拆卸或拔下输入连线。否则将使UPS和与UPS连接的设备失去接地保护。*

**注意** *为符合国家标准和布线规定，连接到UPS上的全部设备的漏电电流不能超过2.75毫安。*

**注意** *墙上的插座与设备的距离不能超过2米，以便于使用。UPS上的通/断开关并没有使内部零件绝缘。长时间不使用时，应从墙上插座中拔下插头。*



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**注意** *只要UFS的输出ON按钮（|）被按下，即使未连接输入连线，UFS上的输出插座也会带电。*

**注意** *旁路系统的输出为固定连接时，其他系统应为其输出交流电路提供过流保护。*

**注意** *旁路系统的输出为固定连接时，其他系统应为其输出交流电路提供具有适当额定值的断接开关。*



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# 安全に関する注意事項

**安全重要事項**
**本書には、重要な安全な取り扱い方が説明されています。**
**この事項に常時留意してください。**

**警告：** 本製品には、致死的な高電圧があります。整備および修理は、許可された整備担当者のみが行わなければなりません。本製品内部には、ユーザ自身が修理できる部分はありません。

**注意：** バッテリから、高電圧の短絡が原因で、感電あるいは火傷を被る恐れがあります。

**注意：** バッテリは適切に処分する必要があります。使用地での廃棄規定を参照してください。

**注意：** このUPSは、自己エネルギー源（バッテリ）を内蔵しています。UPSが商用電源に接続されていなくとも、出力レセプタクルは通電していることがあります。

**注意：** バッテリは絶対に火中に投入しないでください。バッテリは、炎にふれると爆発することがあります。

**注意：** 多層バッテリは絶対に開けないでください。電極は外部に露出すると、皮膚や眼に有害で非常に毒性があります。

**注意：** このUPSには付属の専用電源コードのみを使用してください。この電源コードは、アメリカ電気工事規定（NEC）に準拠しています。UPSを接続する商用電源の壁コンセントは、この規定に準拠しており、装置に損傷を与えないことを確かめてください。商用電源には、過電流保護装置を備わっていることをインストール時に確認してください。入力プラグは、壁コンセントに完全に差し込まれていることを確かめてください。単相、3線、アース付き商用電源を使用してください。

**注意：**火事や感電の危険を防ぐため、温度と湿度がコントロールされ、導体汚染物が無い室内に設置してください。室温は40℃　を越えてはならず、水中や多湿の場所（最高95%）では使用しないでください。

**注意：**UPSの電源が入っている時には、入力電源コードを外さないでください。これを外すと、UPSとそれに接続している装置の安全接地も外れてしまいます。

**注意：** 国際規格および電気配線規定に従うためには、本製品の出力に接続する装置から、総計2.75mA以上の漏電流があってはなりません。



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**注意：** 電灯線コンセントは、装置から2m以内の場所になければなりません。UPSのオン/オフスイッチは、内部回路を電気的に絶縁しません。長期間使用しない場合は、電源コードを電灯線コンセントから外してください。

**注意：** UPSの出力ソケットは、UPSの電源コードが外されていても、UPSの出力オン | ボタンが押されると通電します。

**注意：** 配線式出力をもつバイパス システムに対しては、商用電源の回路に別の手段の過電流保護が必要です。

**注意：** 配線式出力をもつバイパス システムに対しては、商用電源の回路に別の手段の正しい規定の遮断スイッチが必要です。



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CHAPTER 3

# INSTALLATION

The following sections describe UPS storage requirements and the installation and startup of the UPS.

## Unpacking and Inspection

Carefully unpack the UPS and battery cabinets, making sure to retain the packaging materials. Examine each unit carefully for any signs of damage and immediately notify your distributor if damage is present.

For assistance with the IBM 9910 UPS, see Chapter 8, “AS/400 Service” on page 75.

### UPS and Battery Cabinet Storage

If you plan to store the UPS or battery cabinets prior to use, store them in a cool, dry environment. Storage temperature should not exceed 35°C (95°F) in order to preserve battery life. For longer term storage, energize the UPS and battery cabinet for approximately 8 hours every 90 days in order to maintain battery charge.

Whenever the units are not energized, verify the circuit breaker on all battery cabinets is returned to the OFF (O) position.

## UPS with PowerPass Distribution Module Installation

The PPDM is a standard option for the AS/400 systems. The PPDM has a Maintenance Bypass feature that supplies power to your equipment even when the UPS electronics are removed for maintenance or upgrades.

There are three PPDM models available: the 5-15R PPDM, the 5-15R/6-15R PPDM, and the IEC 320-C13 PPDM. The rear panels of these models are shown in Figure 5 on page 37, Figure 6 on page 38, and Figure 8 on page 41, respectively.



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Use the following procedure to install the UPS and battery cabinets with the PPDM:

1. Place the UPS near the equipment to be protected. The UPS should be well ventilated and away from direct sunlight or other heat source.

   Place the UPS and battery cabinets on top of or beside the PPDM as shown in Figure 4.

**NOTE** You can install additional battery cabinets while the UPS is operating, but confirm the UPS is not in Battery mode (see page 49).

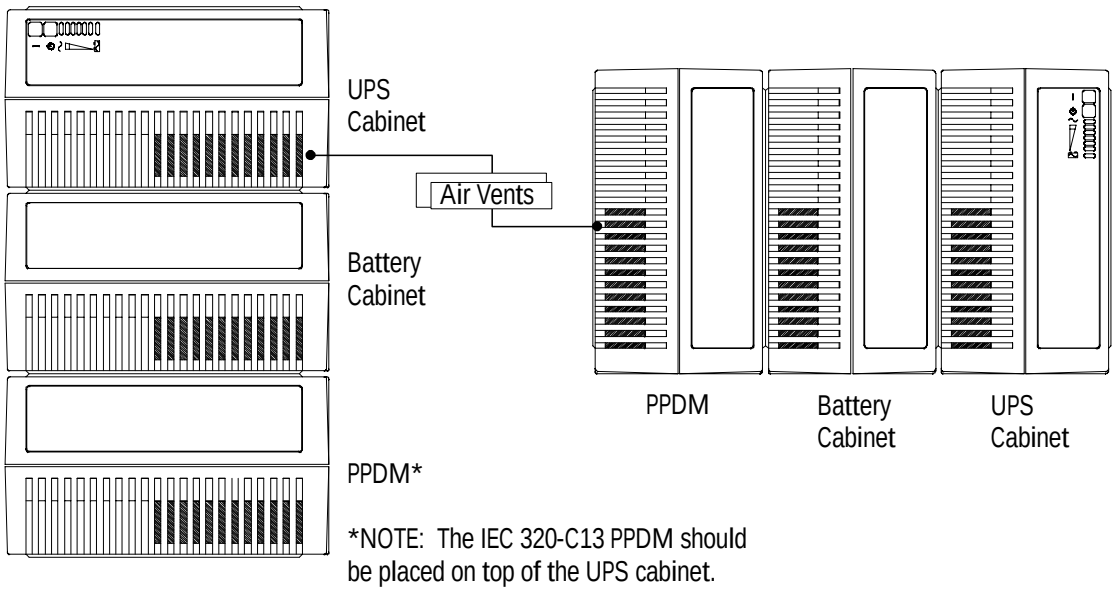


**Figure 4. Cabinet Setup**

2. Verify the circuit breaker on all battery cabinets is in the OFF (O) position.
3. Remove the battery connector guard. Plug the battery cord into the external battery connector on the UPS. All battery connectors are polarized to prevent incorrect connection.
4. If additional battery cabinets are to be used, plug the battery cord of the second cabinet into the external battery connector of the first battery cabinet. Follow this procedure for each additional battery cabinet.
5. Remove the breaker tie from the circuit breaker on all battery cabinets.
6. Switch the circuit breaker on all battery cabinets to the ON ( | ) position.



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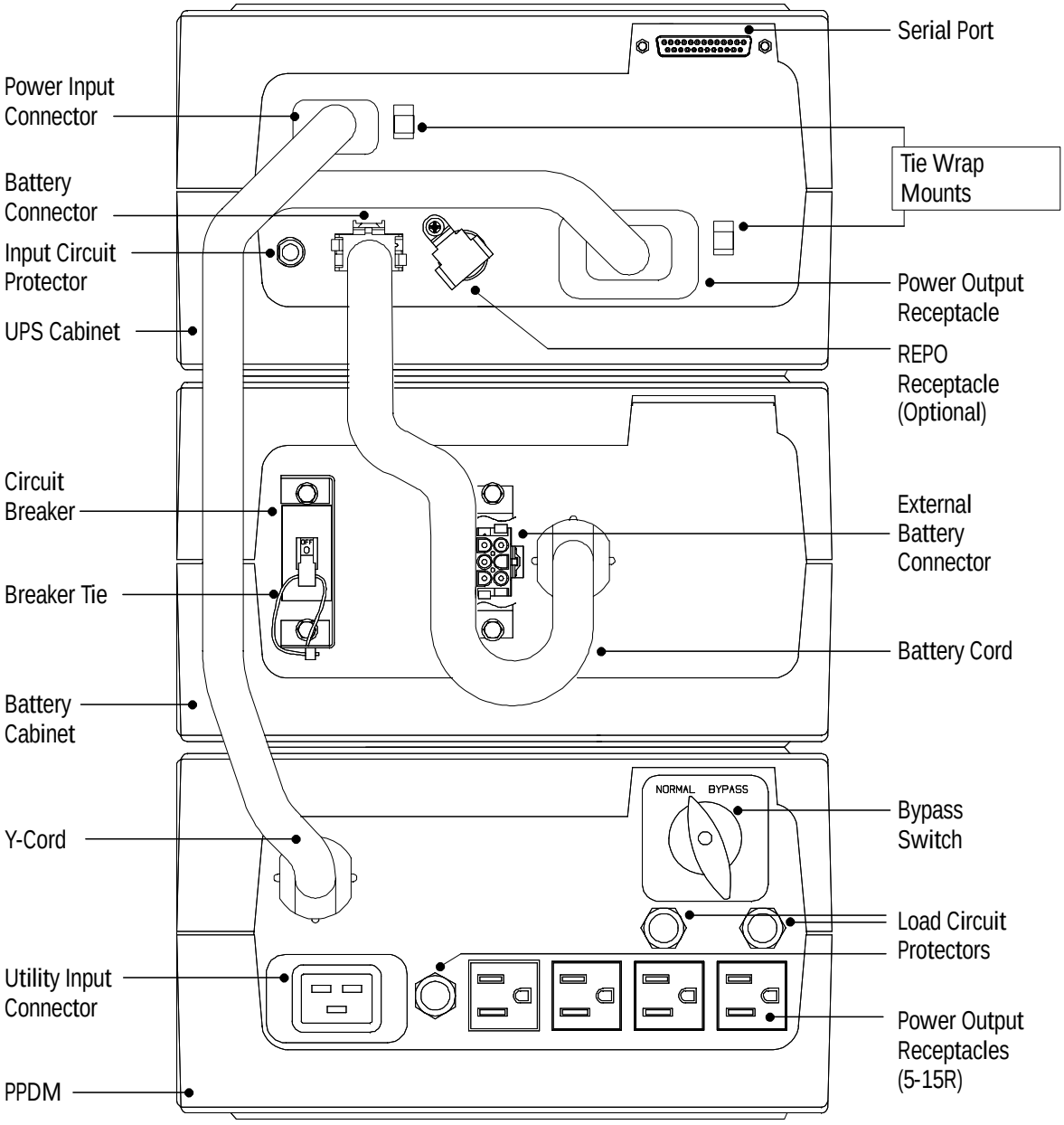


**Figure 5. UPS with 5-15R PPDM Rear Panel**



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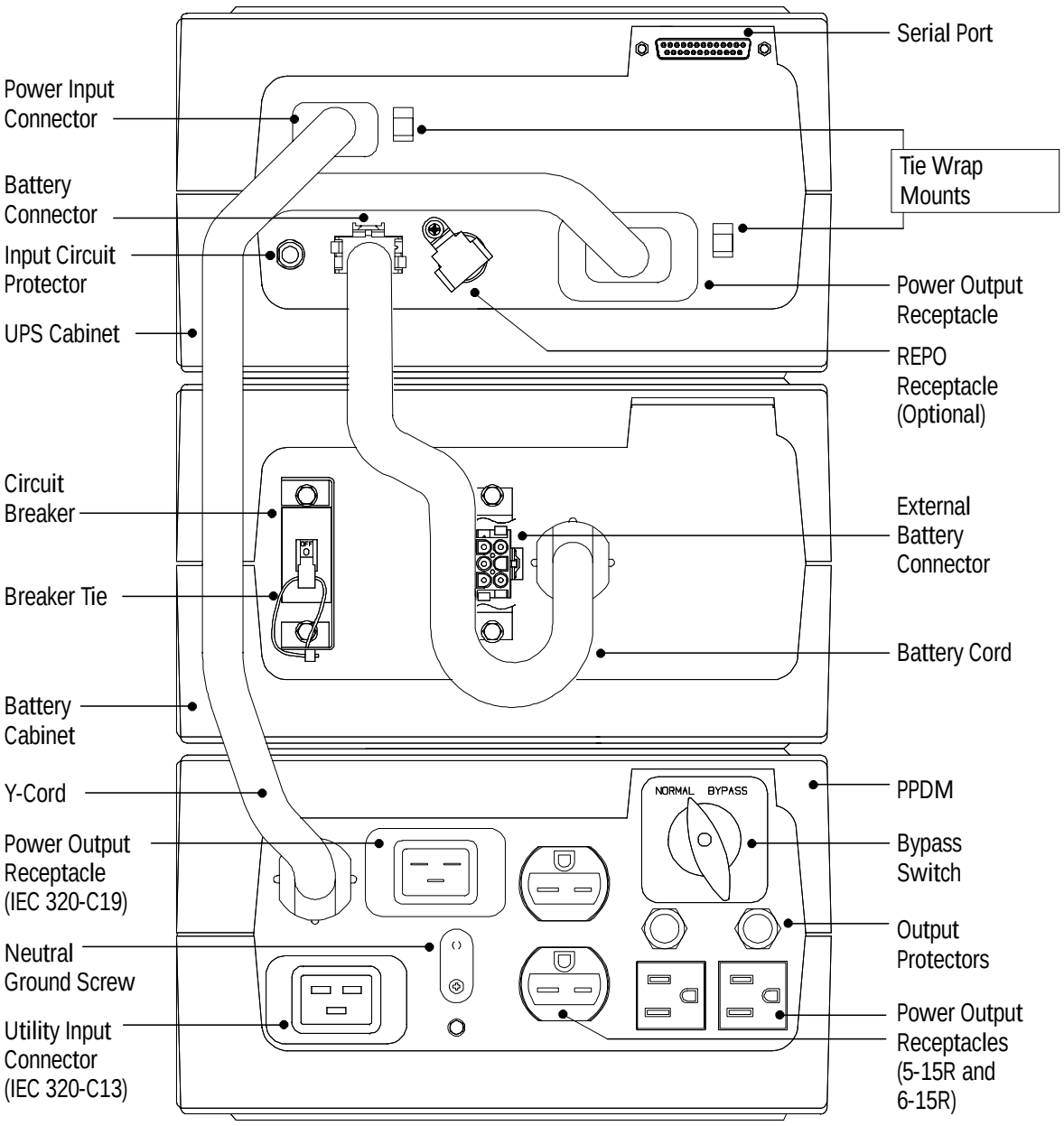


**Figure 6. UPS with 5-15R/6-15R PPDM Rear Panel**

7. **For 5-15R/6-15R PPDM Models Only**: The factory default for the PPDM output neutral is grounded. In some countries, the output neutral should not be grounded. If your application requires an ungrounded output neutral, continue with Step 7; otherwise, skip to Step 8.



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For ungrounded output neutral applications only. Remove the ground screw, rotate the ground cover until it snaps into place, and reinstall the ground screw in the ungrounded position (see Figure 7).

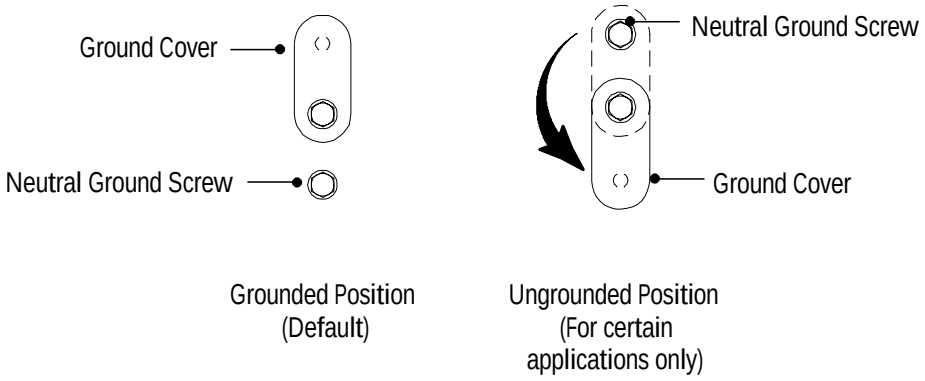


**Figure 7. Output Neutral Ground Screw**

8. Two tie wraps are included with the UPS to secure the Y-cord to the input and output receptacles on the UPS rear panel. Insert the tie wrap through the slot on each tie wrap mount.
9. Verify the Bypass switch on the PPDM rear panel is in the NORMAL position.
10. Plug the Y-cord of the PPDM into the power connectors on the UPS rear panel.
11. Verify that the plugs are fully seated.

    If power cord locking is required: loop the tie wraps around the Y-cord connections and tighten to secure the cord to the rear panel. Allow sufficient slack in the cord between the receptacle and the tie wrap. At least 12″ (30 cm) of slack is recommended.



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12. For the AS/400 interface, plug the AS/400 communications cable into the serial port on the UPS rear panel. Plug the other end of the cable into the J14 connector or the connector labeled "UPS" on your AS/400.

    Specific locations of the J14 serial port are listed below according to the AS/400 model:

    - AS/400 Models 3xx/5xx - located on the base power supply on the back of the system unit
    - AS/400 Models 600/S10/620/S20 - on the power supply
    - AS/400 Models 640/S30/650/S40/SB1 - on the right side of the regulator cage in the back of the tower

13. The equipment to be protected by the UPS should be powered off. Plug the equipment into the power output receptacles on the PPDM rear panel.

**NOTES**

- Use the IEC 320-C19/C20 output cord provided with the PPDM to connect the AS/400 to the PPDM.
- You may have to use the output cord provided with the PPDM for 230V usage.
- The AS/400 line cord should be used from the PPDM input connector to the wall outlet (see Step 4 on page 43). Some configurations require the input cord provided with PPDM.
- When using the PPDM, it is recommended that the equipment not be plugged into the UPS cabinet.
- Do not protect laser printers with the UPS/PPDM because of the exceptionally high cyclic power requirements of the heating elements.

14. If you are using a Remote Emergency Power-Off switch, follow the instructions in "REPO Installation" on page 44.
15. Start the UPS according to the following "UPS with PPDM Startup" procedure.



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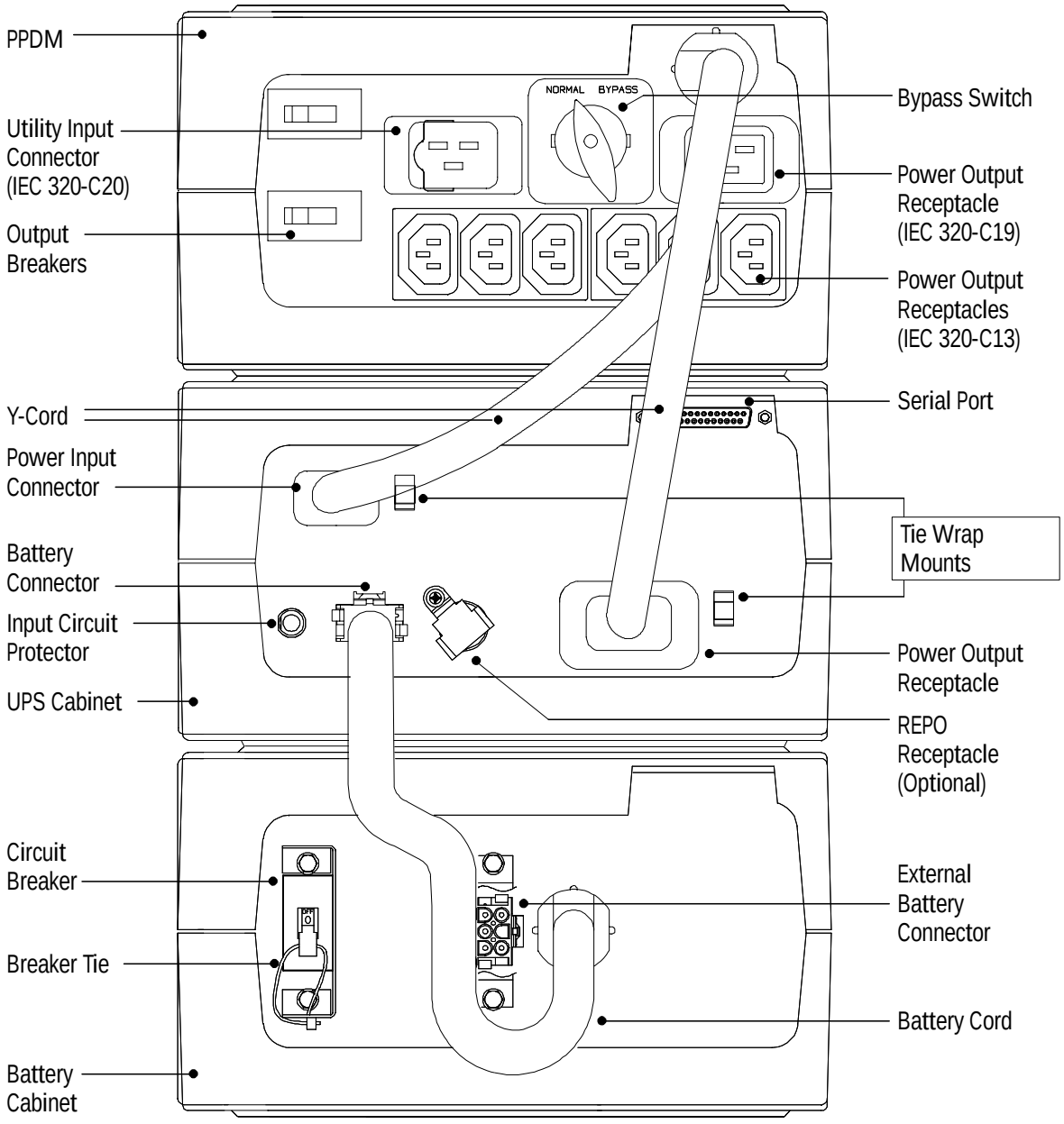


**Figure 8. UPS with IEC 320-C13 PPDM Rear Panel**



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## UPS with PPDM Startup

To start up the UPS:

1. If you are connecting the UPS to an AS/400, the QUPSDLYTIM system value for the UPS Monitoring feature should be set. See "UPS Monitoring" on page 52 for instructions.
2. Confirm the Bypass switch on the PPDM rear panel is in the NORMAL position.
3. Steps 4 through 8 are for changing the output voltage. The output voltage is factory-configured for 230V. If you do not need to change the output voltage, skip to Step 9.

   Use the following table to select the correct output voltage according to your PPDM.

| PPDM Model Number | UPS Voltage Selection* |
|---|---|
| 5-15R PPDM 208: 120/208 | 208 |
| 5-15R PPDM 208: 120/240 | 208 |
| 5-15R PPDM 208: 120 | 208 |
| 5-15R PPDM 240: 120/240 | Set to 220V for 110/220V PPDM output<br>Set to 230V for 115/230V PPDM output<br>Set to 240V for 120/240V PPDM output |
| 5-15R PPDM 240: 120 | Set to 220V for 110V PPDM output<br>Set to 230V for 115V PPDM output<br>Set to 240V for 120V PPDM output |
| 5-15R/6-15R PPDM: 208 | 208 |
| 5-15R/6-15R PPDM: 240 | 240 |
| IEC 320-C13 PPDM | Set to 220V for 220V PPDM output<br>Set to 230V for 230V PPDM output<br>Set to 240V for 240V PPDM output |

*****The UPS output voltage should be set according to local mains voltage.



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4. Plug the input power supply cord (use the AS/400 or PPDM line cord) into the utility input connector on the PPDM rear panel.

   Press and hold the Output ⏻ Off button while plugging the other end of the power supply cord into a grounded, three-wire, AC receptacle that has been wired in accordance with NEC specifications or national wiring rules. Release the Output ⏻ Off button when the alarm beeps. All indicators flash simultaneously.

5. Press and hold the Output | On button until the alarm beeps again.

   Two indicators, corresponding with the current setting, remain flashing. The output voltage is factory-configured for 230V.

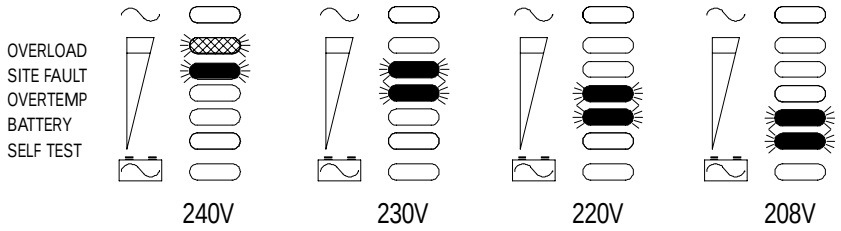


**Figure 9. Output Voltage Indicators**

6. Press the Output ⏻ Off button to scroll through the output voltage options, top to bottom. Each time you press the button, the UPS beeps and the next two indicators flash.

**NOTE** If you do not save a selection within two minutes, the setup automatically aborts and switches back to the original configuration.

7. Press and hold the Output | On button until the alarm beeps to select and save the output voltage. Failure to release the button immediately after the beep will cause the UPS to abort the setup.
8. Continue to Step 10.
9. Plug the input power supply cord into the utility input connector on the PPDM rear panel.

   Plug the other end of the power supply cord into a grounded, three-wire, AC receptacle that has been wired in accordance with NEC specifications or national wiring rules.



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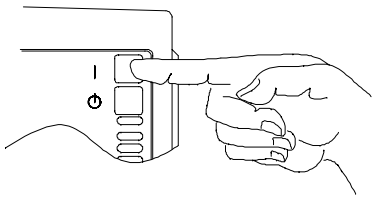
10. Turn on the equipment that is connected to the UPS.
11. Press and hold the Output | On button until you hear the UPS beep (approximately one second).



The ~ indicator remains lit and the Self Test indicator turns on. The front panel displays the percentage of full load being applied to the UPS. The UPS is now in Normal mode with the load online. See "Normal Mode" on page 48 for more information.

## REPO Installation

**WARNING**

Only qualified service personnel (such as a licensed electrician) should perform the hardwired installation.

The REPO switch is a customer-supplied switch that can disconnect UPS output voltage from your protected equipment. If you are using a REPO switch, you need a junction box, external wiring, and a switch with the following specifications:

- The switch should be a wall-mounted, momentary-contact, normally open, pushbutton switch.
- Minimum ratings of 240 Vac and 35 mA.
- Wire should be 18 AWG (0.75 $mm^2$) minimum.

**CAUTION**

- The black and white REPO wires are at high-voltage potential (240V). Refer to your local electrical code for proper installation of the high-voltage REPO wires.
- To ensure the UPS stops supplying power to the load during any mode of operation, the input power must be disconnected from the UPS when the emergency power-off function is activated.



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1. Place the conduit through the access hole on the junction box (see Figure 10). Connect the exposed conduit wires to the corresponding compression terminals (see the following table). Tighten the compression terminals with a screwdriver.
2. Pivot the REPO receptacle guard out of the way, plug the REPO plug/receptacle UPS connector into the REPO receptacle on the UPS rear panel and twist the connector in place (see Figure 5 on page 37).

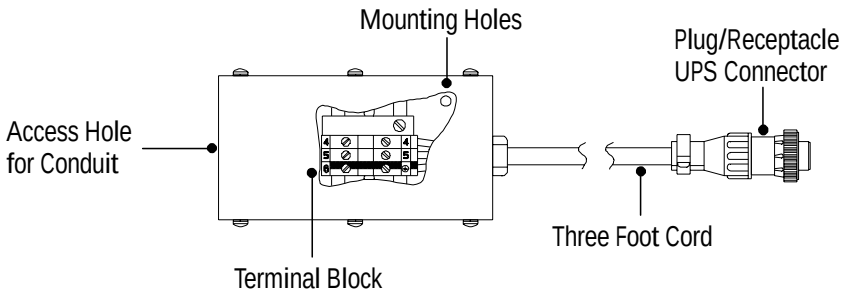


**Figure 10. Optional REPO Cord Junction Box**

| Power Cable Terminations | | | | Tightening Torque | |
|---|---|---|---|---|---|
| Wire Function | | Terminal Position | Terminal Wire Size Rating* | Entrelec | Phoenix Contact |
| REPO | L1 | TB1-4 | 12 - 22 AWG (4 - 0 $mm^2$) | 3.5 - 5.3 lb in | 5.6 - 6.8 lb in |
| | L2 | TB1-5 | | | |
| | Ground | TB1-6 | | | |

*Suggested wire size is #18-AWG (0.75 $mm^2$) 75°C copper wire minimum.

**NOTE** The REPO function activates when L1 and L2 are shorted together.



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## Troubleshooting Tips

If you should encounter any problems during startup, see the troubleshooting chart on page 71.

The battery cabinets are shipped with the batteries charged. However, batteries may lose some of the charge during shipping and storage. You can use the UPS immediately after unpacking, but it may not provide the full-rated backup time during a power failure. Upon initial startup, the UPS may need to operate for approximately 8 hours before the battery is fully charged and full battery-backup time is available. If the Battery Fault indicator flashes, operate the UPS for 24 hours to fully charge the battery.



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CHAPTER 4

# UPS OPERATION

This chapter covers the operation of the UPS including front panel functions, operating modes, using the Battery Start feature, shutting down the UPS, and using the PowerPass Distribution Module.

## UPS Front Panel

The UPS front panel has three distinct functions:

- Displays the UPS operational mode (Normal, Bypass, or Battery).
- Displays any alarm conditions present during operation (the indicators flash).
- Displays the loading percentage during Normal mode and the battery capacity during Battery mode.

You can also use the front panel to configure UPS communication options and to configure the UPS output voltage. See “Front Panel Communications Access” on page 58 or “Changing the Output Voltage” on page 51.

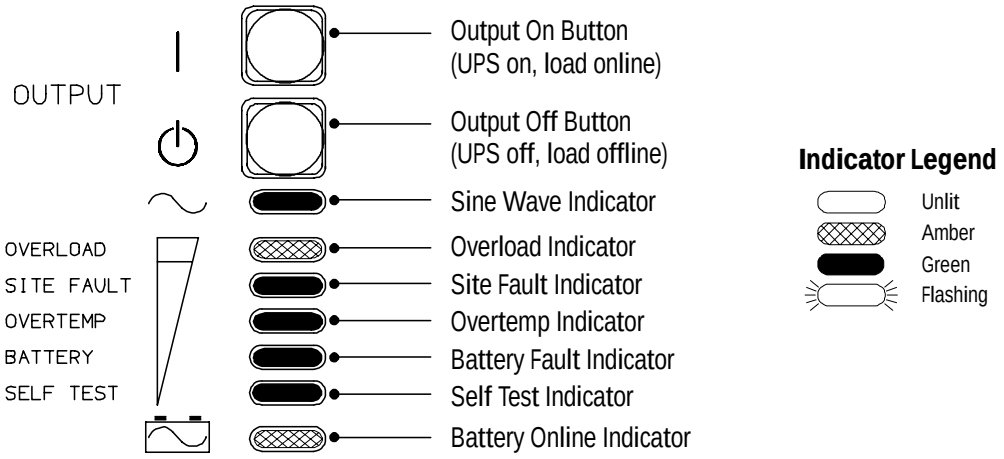


**Figure 11. UPS Front Panel**



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## Operating Modes

After you install and apply power to the UPS, the UPS filters and regulates incoming AC power, eliminating noise and voltage spikes, and provides consistent power to your equipment (see Figure 12). While power is applied to the UPS, the maintenance-free battery is automatically kept in a fully-charged condition.

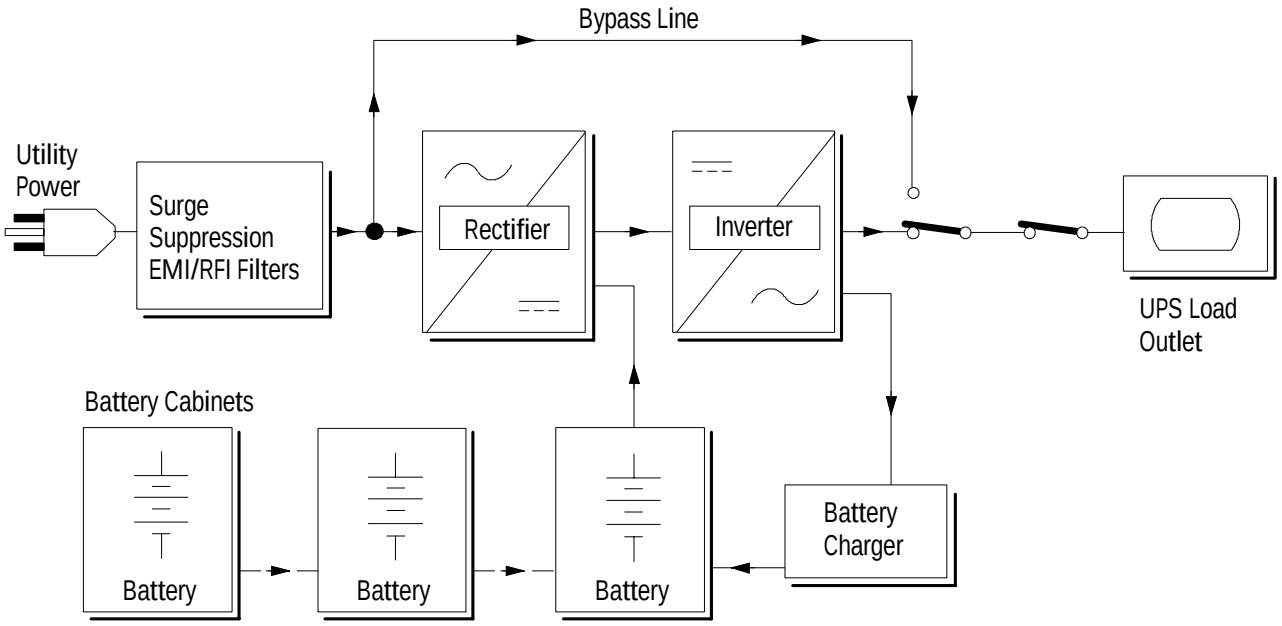


**Figure 12. UPS Block Diagram**

### Normal Mode

During Normal mode, the ~ indicator illuminates and the front panel displays the percentage of UPS load capacity being used by the protected equipment (see Figure 13).

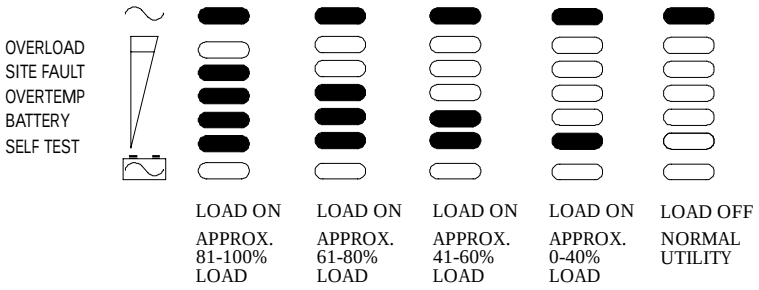


**Figure 13. Normal Operation Indicators**



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## Bypass Mode

The ~ indicator and the ⊠ indicator illuminate simultaneously, indicating Bypass mode (see Figure 14). When the UPS is in Bypass mode, the load is powered by utility power. However, utility power continues to be passively filtered by the UPS.

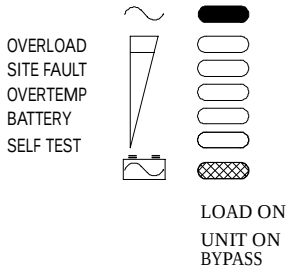


**Figure 14. Bypass Operation Indicators**

## Battery Mode

When the UPS is operating during a power outage, the alarm beeps several times initially, and then once every 10 seconds while in Battery mode. The ⊠ indicator illuminates. The front panel displays the approximate percentage of battery capacity remaining. You can calculate the approximate minutes of battery time by multiplying the "Total Battery Time Minutes" (see Figure 3 on page 3) times the percentage indicated by the Battery Operation indicators (see Figure 15). When the utility power returns, the UPS switches to Normal mode operation while the battery recharges.

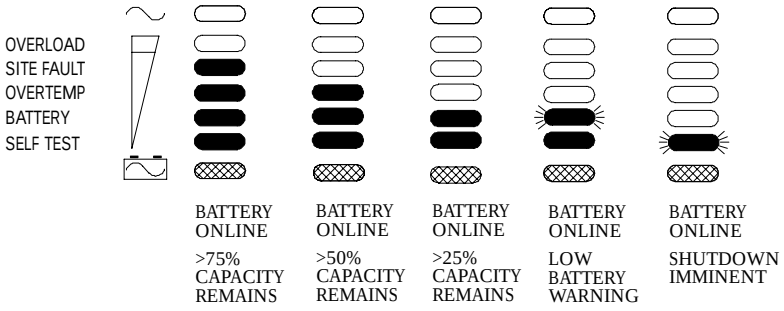


**Figure 15. Battery Operation Indicators**

If battery capacity becomes low while in Battery mode, the Battery Fault indicator begins to flash and the Self Test indicator remains lit, indicating approximately two minutes before UPS shutdown. The alarm beeps every two seconds.



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When shutdown is imminent, the Self Test indicator flashes. These warnings are approximate, and the actual time to shutdown may vary significantly. For approximate battery times see the table on page 4. Once these warnings are indicated, immediately complete and save your work to prevent data loss and similar difficulties. When utility power is restored after the UPS shuts down, the UPS automatically connects to the load when the startup is complete.

## Diagnostics

The UPS periodically performs diagnostic tests while the unit is operating in Normal mode, ensuring proper operation. These tests include:

- Self Test
- Utility Verification Test
- Battery Discharge Test
- Over Temperature Test

The UPS also runs a series of over 20 internal tests when power is first applied. If a diagnostic test fails, see Chapter 7, “Troubleshooting” on page 71.

### Battery Test on Demand

You can perform a battery test on the UPS while it is operating in Normal mode by pressing the Output | On button. The UPS automatically distributes some of the load to the batteries for 30 seconds and tests the battery’s performance.

## Battery Start

**NOTE** Before using this feature, the UPS must have been powered by utility power at least once.

This feature allows you to start the UPS without utility power. After utility power has been unavailable for one minute, press and hold the Output | On button until the alarm beeps.



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The UPS supplies power to your equipment and goes into Battery mode. The ⏦ indicator remains lit and the front panel displays the percentage of battery capacity remaining to the UPS. This process should take about 15 seconds.

## UPS Shutdown

Performing a UPS shutdown turns off the power to your protected equipment. Confirm the equipment is prepared for a power-off before shutting down the UPS.

**NOTE** Do not perform a UPS shutdown if you want to use the Maintenance Bypass feature on the PPDM (see "Using the PPDM" on page 53).

To perform a UPS shutdown:

1. Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds).

   The ~ indicator remains lit indicating Normal mode, load offline.

2. Unplug the UPS.

   The UPS enters Battery mode for several seconds. The ~ indicator turns off and the UPS shuts down.

3. When all LEDs are no longer illuminated on the UPS, switch the circuit breaker to the OFF (O) position on each battery cabinet.

## Changing the Output Voltage

To change the operating voltage of the UPS:

1. Perform a UPS shutdown as described in the previous section.
2. Follow the instructions in "UPS with PPDM Startup" on page 42.



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## UPS Monitoring

UPS monitoring is a standard feature of the AS/400 operating system. QUPSDLYTIM is a timer in the AS/400 that tells the system how long to run on UPS power before shutting down. Each AS/400 system is initially assigned a default value for QUPSDLYTIM.

To determine the default value for your system or to change the value, refer to the Uninterruptible Power Supply section in one of the following IBM documents:

- "AS/400 Advanced Series Backup and Recovery - Advanced," SC41-4305 (for AS/400 Models 3xx and 5xx)
- "AS/400e series Backup and Recovery," SC41-5304 (for AS/400 6xx and Sxx)

V4R1 Backup and Recovery information (AS/400 Models 3xx, 5xx, 6xx and Sxx) is also available on the Customer Documentation AS/400 Softcopy Library CD (SK3T-0118) and on the Internet at: **http://publib.boulder.ibm.com**.

**NOTE** *NOMAX tells the AS/400 to use customized shutdown software, and if none is available it will begin shutdown immediately when utility power fails. Do not set QUPSDLYTIM to "*NOMAX" unless you understand the implications of the "*NOMAX" function as described in one of the IBM documents listed above.



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## Using the PPDM

The PPDM provides continuous online power for your equipment. With the PPDM, you can replace or upgrade the UPS without losing power to your equipment. Figure 16 shows the operation of the UPS with the PPDM.

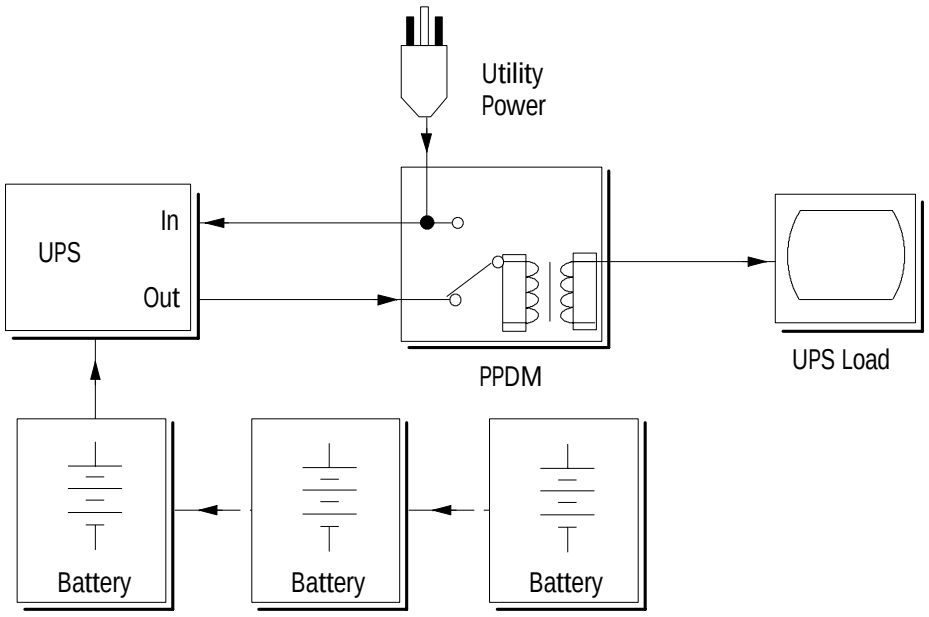


**Figure 16. UPS and PPDM Block Diagram**

### Disconnecting the UPS

Use the following procedure to transfer the critical load to Maintenance Bypass (AC Line operation) and remove the UPS:

1. Turn the Bypass switch on the PPDM to the BYPASS position (see Figure 17). The PPDM is now powering your equipment from utility power.
2. Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds). The ~ indicator remains lit.
3. Remove the Y-cord connections from the UPS rear panel.

**CAUTION**

Do not remove the input power cord or your equipment from the PPDM.



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4. Switch the circuit breaker on all battery cabinets to the OFF (O) position.
5. Disconnect the battery connector on the UPS rear panel.
6. Remove the UPS.

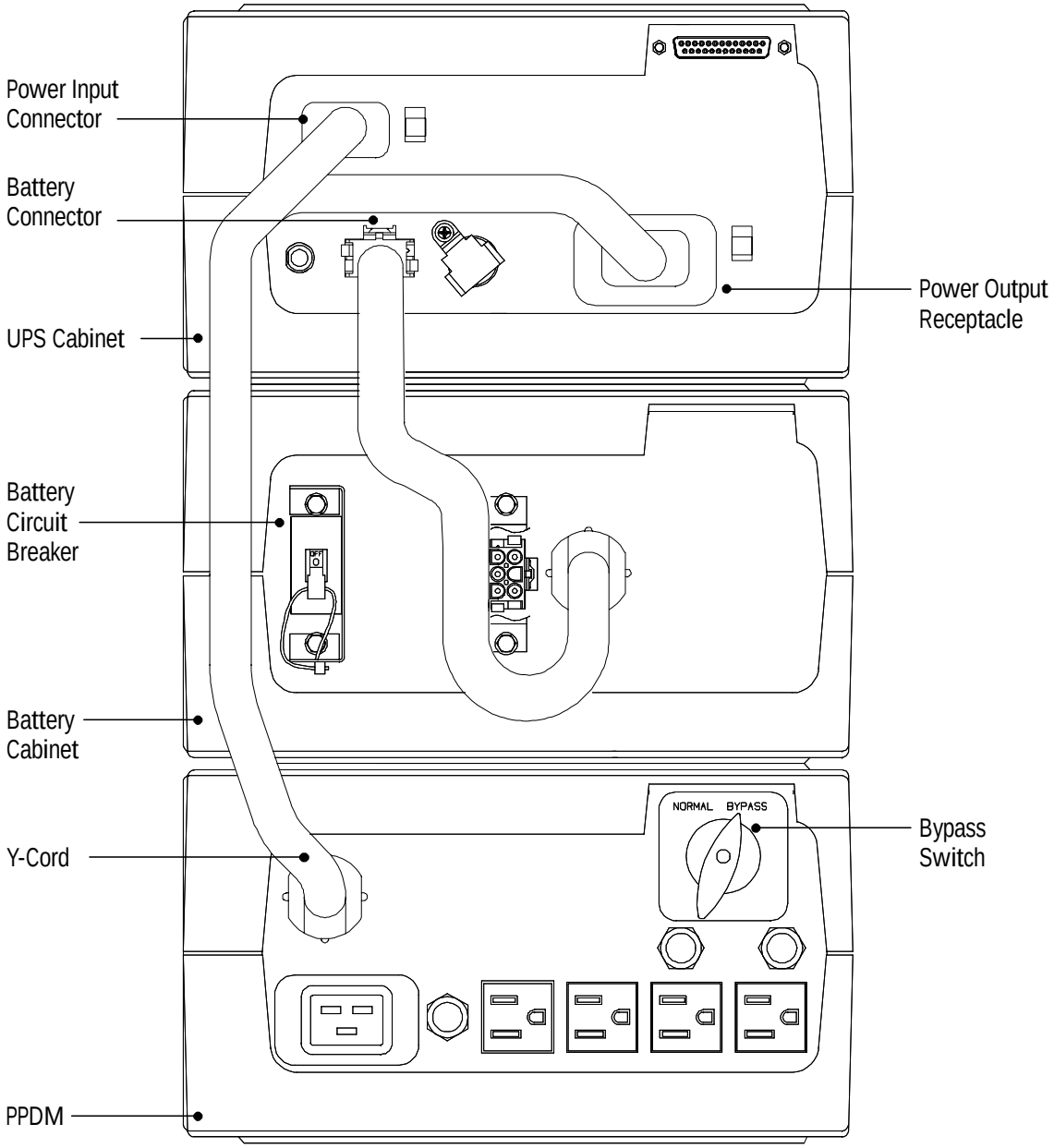


**Figure 17. UPS with 5-15R PPDM Rear Panel**



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## Reconnecting the UPS

Use the following procedure to reinstall the UPS and transfer the critical load from Maintenance Bypass (AC Line operation) to the UPS:

1. Reconnect the battery cabinet to the battery connector on the UPS rear panel.
2. Switch the circuit breaker on all battery cabinets to the ON ( | ) position.
3. Steps 4 through 8 are for changing the output voltage. The output voltage is factory-configured for 230V. If you do not need to change the UPS output voltage, skip to Step 9. Use the following table to select the correct output voltage according to your PPDM.

| PPDM Model Number | UPS Voltage Selection* |
|---|---|
| 5-15R PPDM 208: 120/208 | 208 |
| 5-15R PPDM 208: 120/240 | 208 |
| 5-15R PPDM 208: 120 | 208 |
| 5-15R PPDM 240: 120/240 | Set to 220V for 110/220V PPDM output<br>Set to 230V for 115/230V PPDM output<br>Set to 240V for 120/240V PPDM output |
| 5-15R PPDM 240: 120 | Set to 220V for 110V PPDM output<br>Set to 230V for 115V PPDM output<br>Set to 240V for 120V PPDM output |
| 5-15R/6-15R PPDM: 208 | 208 |
| 5-15R/6-15R PPDM: 240 | 240 |
| IEC 320-C13 PPDM | Set to 220V for 220V PPDM output<br>Set to 230V for 230V PPDM output<br>Set to 240V for 240V PPDM output |

***The UPS output voltage should be set according to local mains voltage.

4. Press and hold the Output ⏻ Off button while plugging the Y-cord of the PPDM into the power connectors on the UPS as shown in Figure 17.

   Release the Output ⏻ Off button when the alarm beeps.

   All indicators flash simultaneously.



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5. Press and hold the Output | On button until the alarm beeps again.

   Two indicators, corresponding with the current setting, remain flashing. The output voltage is factory-configured for 230V.

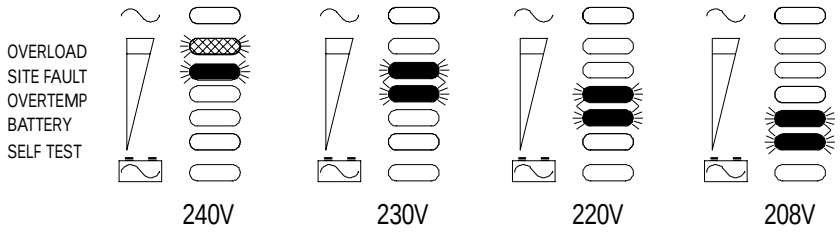
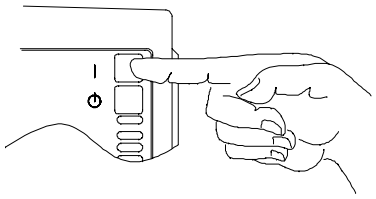



**Figure 18. Output Voltage Indicators**

6. Press the Output ⏻ Off button to scroll through the output voltage options, top to bottom. Each time you press the button, the UPS beeps and the next two indicators flash.

**NOTE** If you do not save a selection within two minutes, the setup automatically aborts and switches back to the original configuration.

7. Press and hold the Output | On button until the alarm beeps to select and save the output voltage. Failure to release the button immediately after the beep will cause the UPS to abort the setup.
8. Continue to Step 10.
9. Plug the Y-cord of the PPDM into the power connectors on the UPS as shown in Figure 17.
10. Press and hold the Output | On button until you hear the UPS beep (approximately one second).



   The ~ indicator remains lit and the Self Test indicator turns on.

11. Turn the Bypass switch on the PPDM to the NORMAL position.

    The front panel displays the percentage of full load being applied to the UPS. The UPS is now in Normal mode with the load online.



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CHAPTER 5

# COMMUNICATION

The UPS is equipped with a communications interface port that allows communication with a wide variety of external devices including:

- Video or dumb terminal
- Serial printer
- Computer with power management or shutdown software
- AS/400 systems

The serial port enables you to monitor and record diagnostic data with the following communication interfaces:

- Serial Communications Interface
  - Terminal Mode
  - Data Dump Mode
  - Printer Mode, 2400 Baud, with Novell Contacts (default)
  - Printer Mode, 19200 Baud, with Novell Contacts
- LAN Configuration
  - Novell®-Style Network Interface
  - 3Com®-Style Network Interface
  - AS/400®-Style Network Interface
  - Custom User-Configurable Interface

## Initial Communications Settings

The UPS is factory-configured for one of several communication interfaces (usually determined by the customer). To determine the initial UPS communications configuration, you can:

- Look at the box label with the serial number (communication mode is shown in the upper right corner).
- Use the Display Configuration option on the UPS Serial Communications Menu (see page 60).
- For assistance with IBM 9910 UPSs, see Chapter 8, “AS/400 Service” on page 75.

If you want to change the UPS configuration settings, use the front panel or the UPS Serial Communications Menu.



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## Front Panel Communications Access

Before you access the front panel, review the following configurations and note the indicator that corresponds with the communication mode.

**NOTE** Only the Printer mode front panel options change the baud rate. Use the UPS Serial Communications Menu to select other baud rates (see page 60).

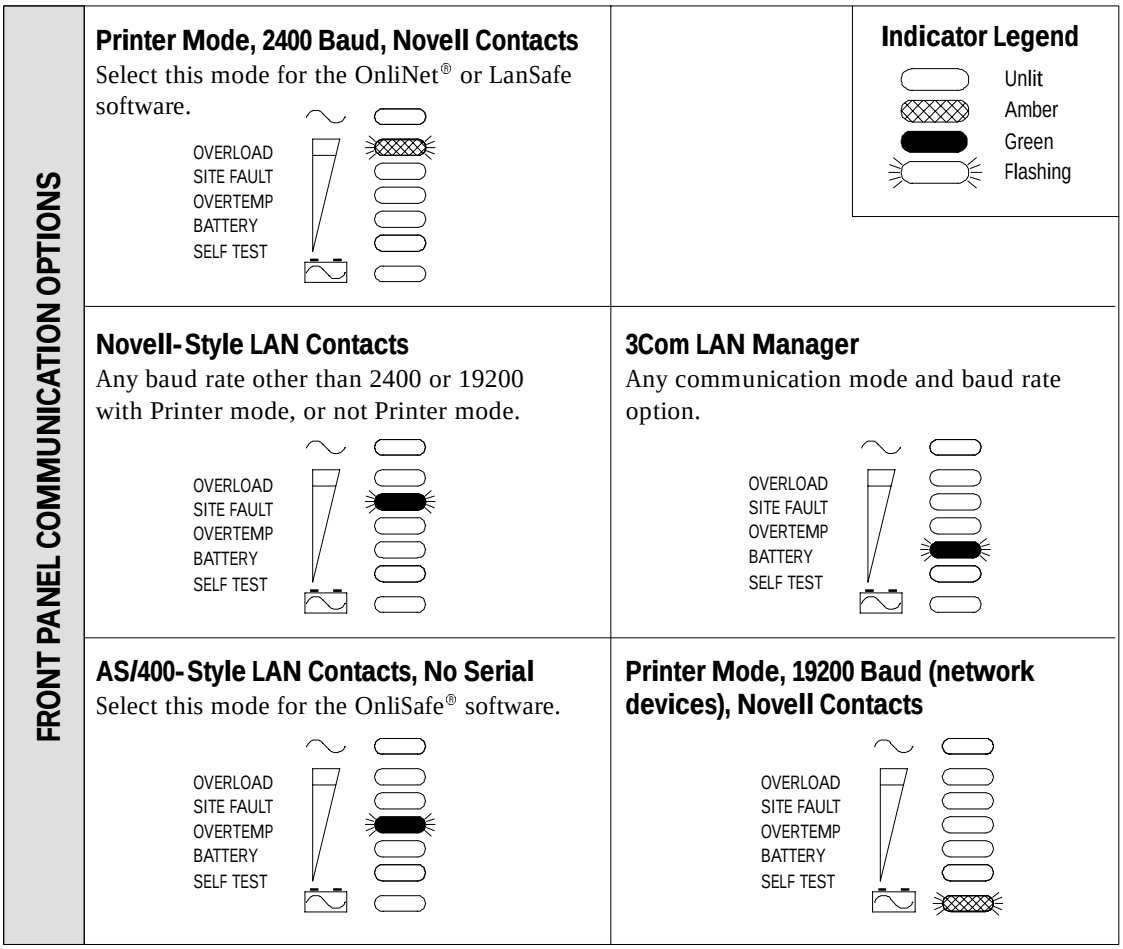


**Figure 19. Front Panel Communication Options**



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To access the front panel communication options, perform the following steps:

1. If the UPS is powered on, prepare your equipment for shutdown.

   Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds).

   Unplug the UPS. Wait until all indicators turn off and then continue to the next step.

2. Plug in the UPS while pressing the Output ⏻ Off button until the alarm beeps. All indicators begin flashing.

3. Press and hold the Output ⏻ Off button a second time until the alarm beeps again.

   A single indicator, corresponding with the current setting, remains flashing.

4. Press the Output ⏻ Off button to scroll through the communication options, top to bottom. Each time you press the button, the UPS beeps and the next indicator flashes.

**NOTE** If you do not save a selection within two minutes, the setup automatically aborts and switches back to the original configuration.

5. Press and hold the Output | On button until the alarm beeps to select and save a communication option. Failure to release the button immediately after the beep will cause the UPS to abort the setup.

6. Press the Output | On button again to return the UPS to Normal mode.

**NOTE** Printer mode selections are the only serial communication modes available from the front panel.



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## UPS Serial Communications Menu

With the UPS Serial Communications (Main) Menu, you can view or select UPS communication modes, baud rates, and LAN configurations. To change or display the current communications configuration:

1. Connect the UPS serial port to a video monitor with a serial interface or to your computer's serial port. If you are using OnliNet or LanSafe software, the UPS should already be connected to your computer.
2. Set your terminal so that it matches the baud rate of the UPS (usually 2400 baud, 8 bits, No parity, 1 stop bit). Refer to your terminal or operating system documentation for details on configuring your terminal communication settings.
3. At the terminal prompt, press **Control-C** until the UPS Serial Communications Menu appears.

```
UPS SERIAL COMMUNICATIONS MENU
SELECT OPERATION MODE
D  >     DISPLAY CONFIGURATION
1  >     CONTINUOUS DUMP
2  >     POLLED DUMP
3  >     SMART DUMP
A  >     ASCII TERMINAL
B  >     VT100 TERMINAL
P  >     PRINTER DUMP
L  >     LAN CONFIGURATION
Z  >     SET BAUD RATE
Q  >     QUIT WITHOUT SAVING NEW CONFIGURATION
S  >     SAVE AND RESTART
ENTER SELECTION > > >
```

4. Select a menu option by typing the corresponding letter or number key. All menu selections are single keystrokes and are not case-sensitive.

   **D > Display Configuration** displays the current communication settings and the new settings that you have selected prior to saving them. The new settings are not effective until you select save from the Main Menu.



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```
Catalog #:              D3023002202C
Serial #:               BP174C0998
Version #:              3.05
COMM mode:              Ser_Print
Baud x100:              024
LAN mode:               Novell
Site Fault Detection:   Disabled

New COMM:               ASCII
New Baud:               096
New LAN:                Novell

Press space bar to continue
```

**NOTE** Catalog #, Serial #, and Version # are all identification numbers unique to your UPS and can also be found on the UPS nameplate.

**1 > Continuous Dump** The UPS regularly transmits status information to the computer. Baud rates of 1200 to 2400 are recommended to reduce host computer overhead when using this mode.

**2 > Polled Dump** Status information is transmitted only when requested by a poll character (Control-E).

**3 > Smart Dump** Status information is transmitted when polled, as in the previous mode. However, the transmission also occurs automatically whenever UPS status changes. For example, if there is a power outage, UPS status information changes and is therefore, automatically transmitted.

**A > ASCII Terminal** The UPS displays the formatted data on the attached video terminal.

**B > VT100 Terminal** The UPS displays the formatted data on the attached video terminal.

**P > Printer Dump** The UPS prints the formatted data on the attached printer.

**L > LAN Configuration** allows you to configure the UPS for a new LAN mode and displays the Select LAN Configuration Menu.



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```
   SELECT LAN CONFIGURATION

1  >     NOVELL
2  >     AS400
3  >     3-COM/LAN MANAGER
4  >     CUSTOM CONFIGURATION
Q  >     TO QUIT THIS MENU

ENTER SELECTION >+>
```

Select the **AS400** option if you are using OnliSafe software to monitor the UPS.

The **Custom Configuration** option has two screens: the first screen has options available for inverter shutdown, and the second screen has options available for the contact configuration. Consult your shutdown software documentation for details on the required signal states for configuring LAN communications.

```
      SELECT CUSTOM LAN CONFIGURATION

Instructions: Choose the desired inverter shutdown function.
Warning: It is recommended that this feature should not be
used with normal RS-232 communications, conflicts may occur.

A > Inverter shutdown control is enabled active HIGH (+12V)
B > Inverter shutdown control is enabled active LOW (-12V)
C > Inverter shutdown control is disabled
Q > TO QUIT THIS MENU

ENTER SELECTION >=>
```

```
      SELECT CUSTOM LAN CONFIGURATION

Instructions: Choose the desired contact configuration.

1  >  UTIL_FAIL is active closed, LOW_BATT is active closed
2  >  UTIL_FAIL is active open, LOW_BATT is active closed
3  >  UTIL_FAIL is active closed, LOW_BATT is active open
4  >  UTIL_FAIL is active open, LOW_BATT is active open
Q  >  TO QUIT THIS MENU

ENTER SELECTION >=>
```



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**Z > Set Baud Rate** allows you to select a new baud rate. The Select Baud Rate Menu displays a list of baud rate options.

```
          SELECT BAUD RATE

2  >      300
4  >      1200
5  >      2400
6  >      4800
7  >      9600
8  >      19200
Q  >      QUIT THIS MENU

ENTER SELECTION >->
```

5. To save the configuration settings, type **S** at the Main Menu prompt. The UPS operates and communicates under the new configuration, and defaults to these settings each time it is started.

   If you want to abandon the selections you have made, type **Q** to quit.

**NOTE** Any changes you make to the UPS communications configuration must correspond to the communications equipment you are using. In particular, new baud rate selections for the UPS must match your communications equipment.

## Power Management Software

Power management software allows you to monitor UPS operations automatically. To use OnliNet or LanSafe software, the UPS must be configured for any one of the Data Dump, Terminal, or Printer modes; however, Printer mode is preferred.

OnliNet provides multiple levels of UPS monitoring and control, as well as automatic shutdown for many different operating systems. If you have any questions or would like further information, see Chapter 8, “AS/400 Service” on page 75 for the number to call in your location.



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## UPS Communications Interface Port

In addition to configuring the UPS for specific communication options, you must also ensure proper use of the serial port when connecting the UPS to your network or monitoring equipment.

**CAUTION**

The serial port LAN contacts are transistors and are rated at **a maximum current of 50 mA and a maximum of +40 Vdc**. Do not exceed these ratings or apply any negative voltage or AC voltage to these contacts; otherwise, damage may occur to your UPS.

Use only the pins specified for your communications configuration. The use of any additional pins for any of the following interfaces can cause interference with system communications.

Even though your network uses the specified signal lines, the pins assigned to these signals at the network end of the cable may vary with those of the UPS serial port. The connector body and style may vary as well.

**NOTE** Standard, pin-for-pin cables may not work correctly. Consult your network software or server manuals for system shutdown pin assignments.

The UPS serial port complies with EIA RS-232 standards. RS-232 specifies a maximum cable length of 50 ft (15m). See Figure 20 for the location of the serial port.

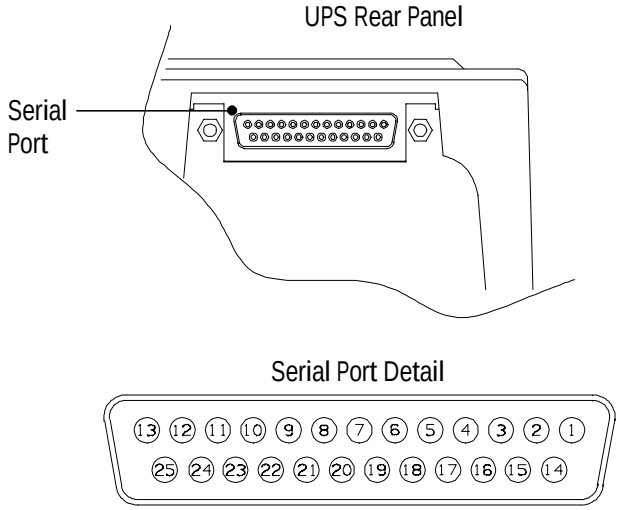


**Figure 20. Serial Port Location**



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## Communications Mode Reference Chart

The following chart defines the UPS serial port contacts. Serial communication is not available with 3Com and AS/400 network configurations. Use only the applicable pins for the selected communication mode; otherwise, interference problems may occur.

| Communication Mode | Function | Signal Name | Pin No. | True Condition |
|---|---|---|---|---|
| Serial | Data to UPS | RS232 TxD | 2 | N/A |
| | Data from UPS | RS232 RxD | 3 | N/A |
| | Signal Ground | | 7 | |
| Novell (Default) | Battery On | ON.AC | 14/16 | Open |
| | Low Battery | TWO.MIN | 23/24 | Closed |
| | Signal Ground | | 7/15/25 | |
| Novell (Custom) | Battery On | ON.AC | 14/16 | Closed |
| | Low Battery | TWO.MIN | 23/24 | Closed |
| | Signal Ground | | 7/15/25 | |
| 3Com (Default) | Shutdown (Remote) | SHUT.DOWN | 2 | Positive Voltage |
| | Low Battery | LOW.BATT | 9 | Positive Voltage |
| | Battery On | PWR.FAIL | 10 | Positive Voltage |
| | Signal Ground | | 7 | |
| AS/400 | UPS Available | UPS Available | 11/13 | Closed |
| | Battery On | Utility Failure | 14/16 | Closed |
| | Bypass | UPS Offline | 17/19 | Closed |
| | Low Battery | Low Battery | 23/24 | Closed |
| | Signal Ground | | 12/15/18/25 | |

**NOTE** Pin numbers separated by a forward slash ( / ) are connected together internally.



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CHAPTER 6

# SPECIFICATIONS

## 3000 VA Model Specification with PPDM

| Voltage In:Out | Input Current | Output Current (Total not to exceed 2000 Watts, 3000 VA) |
|---|---|---|
| 208:120/208 | 13.0A | 12.50A/14.40A |
| 208:120/240 | 13.0A | 12.50A |
| 240:120/240 | 11.3A | 12.50A |
| 208:120 | 13.0A | 12.50A (2x5-15R)/25.00A (L5-30R) |
| 240:120 | 11.3A | 12.50A (2x5-15R)/25.00A (L5-30R) |
| 220:220 | 12.3A | 13.64A |
| 230:230 | 11.7A | 13.04A |
| 240:240 | 11.3A | 12.50A |

## Prestige 3000 UPS Physical Specifications

| Parameter | UPS Cabinet | Battery Cabinet | PowerPass Distribution Module |
|---|---|---|---|
| Height | 252 mm (9.91”) | 252 mm (9.91”) | 252 mm (9.91”) |
| Width | 142.5 mm (5.61”) | 142.5 mm (5.61”) | 142.5 mm (5.61”) |
| Depth | 400 mm (15.75”) | 400 mm (15.75”) | 400 mm (15.75”) |
| Weight | 7.4 kg (16.25 lb) | 23.6 kg (52 lb) | 21.4 kg (47 lb) |



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# Prestige 3000 UPS Technical Specifications

| | |
|---|---|
| Input Voltage Range | 160 to 276 Vac |
| Input Power Factor | 0.95 Typical |
| Frequency Range | 50/60 Hz ±3 Hz |
| Surge Protection | IEC 801-4 |
| Output Waveform | Sine wave |
| Output Voltage (without PPDM) | 200/208/220/230/240 Vac ±3% |
| Online (BTUs) | 978 |
| On Battery (BTUs) | 1468 |
| Common Mode Noise Rejection | >60 dB @ 100 kHz |
| Transverse Mode Noise Rejection | >80 dB @ 100 kHz |
| Input Cord | Detachable 2-meter cord |
| Outlets (UPS Cabinet) | IEC 320 (1) |
| Output Voltages and Outlets (with PPDM) | 120/208V: 5-15R (2), 6-15R (2), IEC 320-C19 (1)<br>120/240V: 5-15R (2), 6-15R (2), IEC 320-C19 (1)<br>220/230/240V: IEC 320-C13 (6), IEC 320-C19 (1)<br>120/208V: L6-30R (1), 5-15R (4)<br>120/240V: L6-30R (1), 5-15R (4) |
| Batteries (10) per cabinet | 12 Vdc, 5 Ah, maintenance-free rechargeable lead acid |
| Battery Cabinet | 120 Vdc |
| Operating Environment | Temperature: 10°C to 40°C (50°F to 104°F)<br>Humidity: 5 to 95% (noncondensing) |
| Agency Approvals | Safety: EN50091-1<br>UL 1778<br>cUL<br>EMC: FCC Part 15 Class A<br>EN50091-2 |



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# Part Numbers

## Base Equipment

| Machine Type | Model | IBM Part Number | VA | Watts | Volts | Frequency | Description |
|---|---|---|---|---|---|---|---|
| 9910 | EP5 | 21H1572 | 3000 | 2100 | 120/208 or 120/240 | 50-60 | Prestige 3000 Model 3000 |

All models include electronics module, PPDM (208V or 240V) input line cord, AS/400 communications cable, operator's manual, and one battery pack.

## Standard Accessories

| IBM Part Number | IBM Type/Model | Description |
|---|---|---|
| N/A | 9910-6602 | Prestige 3000 Full Battery Pack |
| 17G1792 | 9910-6561 | Prestige 3000 PowerPass Distribution Module (IEC 320-C13 PPDM: 120/208) |
| 17G1793 | 9910-6562 | Prestige 3000 PowerPass Distribution Module (5-15R/6-15R PPDM: 120/208) |
| 17G1794 | 9910-6563 | Prestige 3000 PowerPass Distribution Module (5-15R/6-15R PPDM: 120/240) |
| 21H8436 | 9910-6550 | Prestige 3000 PowerPass Distribution Module (5-15R PPDM: 120/208) |
| 21H8437 | 9910-6551 | Prestige 3000 PowerPass Distribution Module (5-15R PPDM: 120/240) |

| IBM Part Number | Powerware Part Number | Description |
|---|---|---|
| 17G2374 | 124102011-001 | 15-ft. AS/400 Communications Cable |
| N/A | 152507429-003 | L6-30P Input Line Cord |
| N/A | 152507829-001 | IEC 320-C19/IEC 309 Input Line Cord (for 9910-6561 only) |
| N/A | 152507429-014 | IEC 320-C19/L6-30P Input Line Cord (for 9910-6562 and 9910-6563) |
| N/A | 152507429-017 | IEC 320-C19/C20 Output Cord (for 9910-6561, 9910-6562, and 9910-6563) |
| N/A | 152600403-001 | IEC 320-C13/C14 Output Cord (Qty. 4) (for 9910-6561 only) |
| N/A | 152507379-001 | IEC 320-C13/5-15P Output Cord (for 9910-6562 and 9910-6563) |
| N/A | 152600358-001 | IEC 320-C13/6-15P Output Cord (Qty. 2) (for 9910-6562 and 9910-6563) |



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## Optional Accessories

| IBM Part Number | IBM Type/Model | Description |
|---|---|---|
| 21H8444 | 9910-6602 | Prestige 3000 Full Battery Pack |

## Manuals

| IBM Order Number | Description |
|---|---|
| SC21-8379 | Powerware Prestige Series Installation and Operator's Manual for IBM Applications (3000 VA) |

Manuals may be ordered from the IBM Mechanicsburg Distribution Center.



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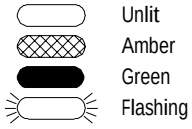
# CHAPTER 7
# TROUBLESHOOTING

The Prestige UPS is designed for durable, automatic operation and also alerts you whenever potential operating problems may occur. Use the following troubleshooting chart to determine the UPS alarm condition.

**Indicator Legend**




| Condition | Possible Cause | Action |
|---|---|---|
| UPS does not turn on. | UPS is not plugged in. | Plug UPS into working outlet. |
| | Faulty wall socket. | Test wall socket, repair as required. |
| | UPS input breaker is tripped. | Reduce load, then reset breaker. |
| Load does not turn on. | UPS has not been activated. | Press the Output \| On button for one second, then release. |
| UPS beeps occasionally. | Normal operation. | None. UPS is protecting your equipment. |
| UPS input breaker trips. | Load fault. | Check the load.<br>Disconnect faulty load equipment.<br>Wait several minutes before resetting the UPS input breaker.<br>Restart the load. |
| indicator remains lit, even though line voltage is present. | Utility line is out of specification. | Test wall socket, repair as required. |
| | UPS input breaker is tripped. | Reduce load, then reset breaker. |
| UPS does not provide the expected backup time. | Low battery capacity. | Allow battery to charge for 24 hours, then retest. |
| | Protected equipment power requirements exceed UPS capacity. | Reduce load, then retest. |



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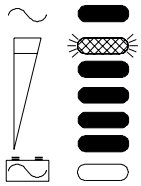
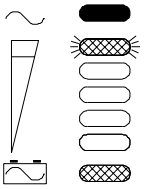
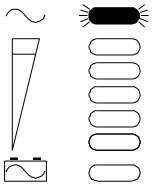
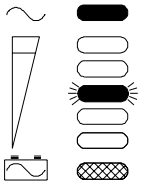
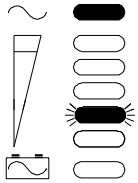
| Condition | Possible Cause | Action |
|---|---|---|
| Communications do not function properly. | Incorrect communications cabling. | Verify cable integrity (see page 64). |
| | Incorrect baud rate. | Select a new baud rate (see page 63). |
| | Incorrect communication mode. | Select a new communication mode (see Chapter 5). |
| No output load voltage. | Load plug(s) not fully seated. | Verify load plug(s) are fully seated. |
| | Load circuit protectors tripped. | Reset load protectors. |
| OVERLOAD<br>SITE FAULT<br>OVERTEMP<br>BATTERY<br>SELF TEST  | Power requirements exceed UPS capacity. If overload is greater than 105%, the alarm beeps every second and the UPS may switch to Bypass mode. | Your UPS continues to operate. Reduce load. |
| OVERLOAD  | The UPS switched to Bypass mode because the overload increased (above 105%). The alarm beeps. | Reduce load.<br>If the Overload indicator remains lit, reset the UPS by pressing the Output \| On button until the alarm beeps.<br>You may need to obtain a larger capacity UPS. |
|  | The utility line voltage and frequency are out of specification. | The inverter remains online, deriving power from the utility until it is no longer acceptable.<br>Check the unit configuration.<br>Refer to the product specifications (see page 67). |
| OVERTEMP  | UPS internal temperature is too high. The alarm beeps and the UPS switches to Bypass mode for approximately 10 minutes, allowing the UPS to cool down. | Shut down the UPS. Clear vents. Remove any heat sources. Wait approximately 5 minutes and retry. Contact your service representative if condition persists. |
| BATTERY  | Weak battery while in Normal mode. The alarm beeps. | Allow the battery to charge for 24 hours, then retest. Have batteries replaced if condition persists. |
| | Battery breaker is open (O). | Verify that the battery cabinet breaker is in the ON ( \| ) position. |
| | Battery cabinet is not properly connected to the UPS. | Verify that the battery cords are connected. |



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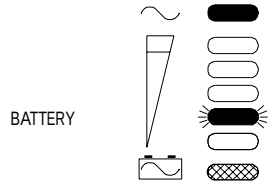
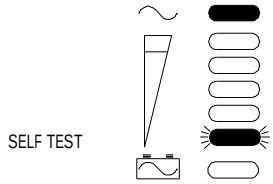
| Condition | Possible Cause | Action |
|---|---|---|
|  | Weak battery while in Bypass mode. | This usually indicates that the batteries need replacing or the UPS requires service. Contact your service representative. |
|  | Self Test failure. UPS internal problem. | The UPS may switch to Bypass mode, depending on the circumstances.<br>Reset the UPS by pressing the Output \| On button until the alarm beeps.<br>Contact your service representative if condition persists. |

## Resetting the UPS

To reset the UPS while an alarm condition is present, press the Output | On button until the UPS alarm beeps.

## Silencing the Alarm

To silence the alarm for an existing fault, press and hold the Output | On button for one second. The alarm becomes quiet. If UPS status changes, the alarm beeps, overriding previous alarm silencing. Press the Output | On button again to silence the alarm.



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CHAPTER 8

# AS/400 SERVICE

The following sections describe the methods for obtaining service for your UPS and warranty information.

## Warranty

The warranty service on Powerware UPSs is element exchange. If the UPS becomes inoperative, the module that is inoperative will be replaced. For 3 kVA UPSs, this would either be the I/O, battery, or PowerPass Distribution Module. The process for obtaining a replacement module varies by country. Under NO CONDITIONS are IBM Customer Engineers authorized to remove the covers.

The warranty on the replacement unit, should you require one, is for the remaining period of warranty of the original unit. See page 79 for a detailed description of the warranty.

## Installation Instructions

Installation instructions are in pictorial form on the *Quick Install* pages in the front of this manual and also in written form beginning on page 35. Safety instructions are provided in multiple languages and begin on page 7. Publications may be ordered from the IBM Mechanicsburg Distribution Center.

## Connected Equipment Insurance

With this program, Powerware Corporation provides a $25,000 Powerware Protection Guarantee. See page 80 for specific terms and conditions of the Powerware Protection Guarantee.



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## Battery Warranty

If, in Powerware Corporation's opinion, the unit fails to meet published specifications and the defect is within the terms of the limited warranty (attached), the defective part(s) will be repaired or replaced at the option of Seller with no charge for replacement parts. The battery is warranted to have at least 70% of original full load capacity at the end of five years from date of installation or 66 months after manufacture, whichever comes first. The warranty is invalid if the battery is subject to misuse, abuse, or physical damage.

| | | | Warranty | |
|---|---|---|---|---|
| Model | Part Number | Coverage Area | 5 Year | 3 Year |
| EP5 | 21H1572 | AP, Canada, LA, US | X | |
| | | EMEA | | X |

## Obtaining Service

The troubleshooting chart on page 71 covers most of the difficulties you may encounter during normal operations.

For further assistance with IBM 9910 UPSs, see the following section that applies to you. For critical applications, expedited replacement may be available.

Please have the following information ready when you call for service:

- Model number
- Serial number
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information



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### Customer Responsibilities

The customer is responsible for the following element exchange items:

- Receiving, unpacking, and exchanging of the defective element.
- Repacking the defective element in the container received with the replacement element.
- Following the instructions provided for return of the defective element.

IBM on-site service for the element exchange activities is available for an additional charge.

## United States

### Customer Process for Service

1. Customer calls 1-800-IBMSERV (Field Services Support-FSS).
2. Customer indicates that the UPS is defective.
3. The FSS will confirm that the unit is listed in the customer profile and notify Powerware.
4. Powerware will promptly call the customer and ask for the serial number. Powerware will also attempt to determine the nature of the problem. The problem may be related to improper operation as opposed to a defect.
5. If the unit requires replacement, Powerware will send a replacement unit.
6. The customer is expected to install the replacement unit. To return the defective unit see the instructions on the bottom of the Return Material Authorization (RMA). The packaging material used for the replacement unit can be used for this purpose.

### Shipping

Powerware will pay all shipping costs incurred (both to and from the customer site or IBM Designated Location) to replace the defective UPS system.



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### Handling of Incomplete, Damaged, or Incorrectly Shipped 9910 UPSs

If the customer initially receives a 9910 UPS that is incomplete, damaged, or incorrectly shipped:

1. The customer calls IBM at 1-800-IBMSERV to report the problem.
2. An IBM representative notifies the customer of how the problem will be resolved.

## Canada

### Customer Process for Service

1. Customer calls 1-800-426-7378.
2. Dispatch takes the information from the customer and notifies the IBM Customer Service Representative (CSR).
3. Problem determination is performed by the CSR.
4. If a replacement unit is required, the unit is ordered out of stock and sent to the customer.
5. The CSR does the swap and returns the defective unit to the IBM parts center.

## Latin America

### Customer Process for Service

1. Customer calls the local IBM office servicing account.
2. The IBM CE responds, determines the problem, and resolves the problem.

## Asia Pacific

### Customer Process for Service

1. Customer calls the local IBM office servicing account.
2. The IBM CE responds, determines the problem, and resolves the problem.



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# EMEA

## Customer Process for Service

1. Customer calls the local IBM office servicing account.
2. The IBM CE responds, determines the problem, and resolves the problem.

# IBM Powercare® Five-Year Warranty

Applies only to electronics (unit) installed in the 50 United States of America, Canada, Latin America, and Asia Pacific: Powerware Corporation warrants the unit against defects in material and workmanship for a period of five years from the date of startup or sixty-six (66) months from the date of completion of manufacture, whichever period expires first.

If, in Powerware Corporation's opinion, the unit fails to meet published specifications and the defect is within the terms of this limited warranty, the defective part(s) will be repaired or replaced at the option of Seller with no charge for replacement parts. There will be no charge for replacement equipment installation or defective part repair in connection with defects covered by this Limited Warranty. Equipment sold, but not manufactured, by Seller (e.g. batteries, battery racks), shall be warranted only by the manufacturer of such equipment, Prestige 3000 Powerware Corporation's line up and match batteries are warranted for 5 years from start-up or 66 months from manufacture subject to the terms attached hereto. Equipment repaired or replaced pursuant to this Limited Warranty will be warranted for the unexpired portion of the original warranty subject to all the terms thereof.

This warranty does not apply to any unit that has been subject to neglect, accident, abuse, misuse, misapplication, incorrect connection, or that has been subject to repair or alteration not authorized in writing by Powerware Corporation personnel. THIS WARRANTY IS THE PURCHASER'S (USER'S) SOLE REMEDY AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTY, AND THERE ARE NO OTHER EXPRESSED OR IMPLIED GUARANTEES OR WARRANTIES INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR PURPOSE. Powerware Corporation's liability on any claim of any kind relating to the unit, batteries or otherwise for any loss or damage arising out of or in connection with or resulting from this Agreement or from the performance or breach thereof shall in no case exceed the price allocable to the goods or services or unit thereof which gives rise to the claim.

Seller's obligations under this Limited Warranty are conditioned upon receipt by Seller of all payments due (including interest charges, if any). During such time as Seller has not received payment of any amount due to Seller in accordance with the Contract terms under which the equipment is sold, Seller shall have no obligation under said warranty; also during this time the period of said warranty shall continue to run and the expiration of said warranty shall not be extended upon payment of the overdue amount. These limitations to said warranty apply even in the event that the equipment is sold by Seller for resale to an ultimate user.

In no event shall Seller be liable for any indirect, incidental, special, or consequential damages. Seller shall not be responsible for failure to provide service or parts due to causes beyond Seller's reasonable control.

Any advice furnished the Purchaser (user) before or after delivery in regard to use or application of Powerware Corporation equipment, is furnished without charge and on the basis that it represents Powerware Corporation's best judgment under the circumstances. The use of any verbal advice by the Purchaser (user) is solely and entirely at its own risk.

Preventive Maintenance (PM) is not required on the product to maintain the warranty.

This limited warranty applicable only to products purchased from the IBM Corporation.



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# Powerware Protection Guarantee

Attached Equipment Protection Program Terms and Conditions

Program Summary: Powerware Corporation guarantees to repair or replace (at the option of Powerware Corporation) any equipment that is damaged by AC power disturbances when said equipment is properly connected to a Powerware Corporation uninterruptible power supply (UPS) covered by the Powerware Protection Guarantee. This program provides for reimbursement of repair or replacement expenses up to $25,000.00 and applies only to component or physical system damage.

Products Covered: The Powerware Protection Guarantee applies to all Powerware Corporation Prestige 3000 UPS systems that are covered under the original IBM AS/400 Powercare Limited warranty during the manufacturer's warranty period.

Applicability: The Powerware Protection Guarantee applies only to units installed in the United States of America, Latin America, Canada, Asia Pacific and were sold by IBM Corporation with AS/400 systems. Further, this Powerware Protection Guarantee applies only to end-users of the UPS product(s) who have returned the warranty registration card within 30-days after product delivery. This program does not apply to damage resulting from any cause other than AC power disturbances and is independent of the Powerware Corporation manufacturer's warranty or service contract. The Powerware Protection Guarantee applies to the following AC power disturbances as defined by the American National Standards Institute (ANSI): power line transients; electrical spikes; electrical surges; brownout; blackout. UPS products must be properly maintained according to the manufacturers' recommendations set forth in the operator's manual and the UPS installation must adhere to electrical safety requirements set forth by the National Electrical Code (NEC) or applicable local code(s). The UPS must be properly connected to a properly installed electrical outlet or other connection per the NEC or applicable local code (s). The equipment covered by this guarantee must be connected directly to the output of the Powerware Corporation UPS product with no intervening electrical devices. The Powerware Protection Guarantee is null and void if the UPS product has been: misapplied; improperly maintained; mishandled; abused; improperly installed; altered in any way subjected to accident or misuse; used in other than normal operating conditions described in the UPS product specifications. The Powerware Protection Guarantee is independent of all other warranties and there are no other warranties expressed or implied, including warranties of merchantability and fitness for a particular purpose. IN NO EVENT SHALL POWERWARE CORPORATION BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF ITS' PRODUCTS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Direct, indirect, special, incidental or consequential damages include, but are not limited to, lost profits or revenue, loss of equipment, loss of use of equipment, software loss, loss of data in whole or in part, recovery of data in whole or in part, restoration of data in whole or in part, corruption of data in whole or in part, cost of substitutes or rental equipment, claims by third parties or otherwise.



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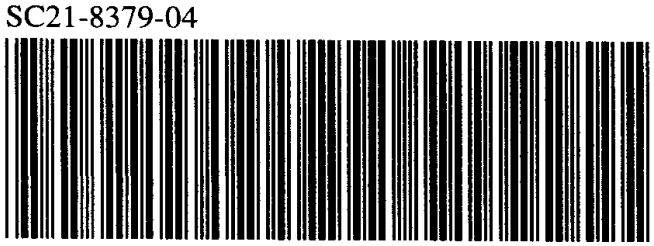

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